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Foreign and Domestic Trends in Diphtheria*

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EVER since the advent of diphtheria immunization there has been constant speculation as to whether the decline in the incidence of diphtheria could be attributed to immunization or was a coincidental but not related phenomenon and, if so related, whether or not the prevailing low levels of incidence could be maintained. Those who were most doubtful as to the effect of community immunization pointed out correctly that diphtheria had decreased in many non-immunized communities at the same rate as in the immunized. Subsequent experience has shown, however, that in the former the decrease has not been maintained. Although it is agreed that there are many factors other than mere extent of immunization that have influenced this decline, I believe that most observers in this country are in agreement that immunization has been a force that has not only directly reduced the incidence but may also have so shifted the balance of other factors as to effect a further reduction.

It has been logical to speculate, however, as to the permanence of this effect. Diphtheria occurs in definite though possibly irregular cycles of altered prevalence and virulence. Is there reason to believe that immunization may have been effective when it coincided with the downswing of a cycle but would be less effective on the upswing? May protection be adequate so long as the prevailing form of the infection is relatively mild but be inadequate at a future date when more virulent strains of organisms reappear and become dominant? These are questions that cannot be answered at this time, but on which some gleam of light may be shed by examination of recent trends in the prevalence of diphtheria in this country and abroad.

The war period has been marked by an upsurge in the incidence of diphtheria throughout the world, an increase noted on all continents to a varying degree. In Europe this increase was most pronounced in the northwestern section

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where the disease rebounded to equal the high morbidity rates of the last century. Southern and southeastern Europe was mercifully spared these wartime increases, possibly due in part to the fact that it was recovering from high rates during the previous decade when northwestern Europe had been enjoying a moderate decline unattributable to immunization.

The pre-war years had, however, been marked by several features which held an ominous foreboding for the diphtheria situation. The first of these was the obvious prevalence in Europe of a form of diphtheria appreciably more malignant than that which prevailed in the United States. This form had been repeatedly described in England and Germany as well as in other countries. In Germany there had been much speculation about its relationship to coincidental streptococcal infection and even doubts as to the adequacy of diphtheria antitoxin in treatment. The English studies of strains of diphtheria bacilli, distinguishing *gravis*, *mitis* and *intermedius strains*, gave hope of an explanation of the enhanced virulence of the prevailing infections. Although most bacteriologists in this country currently doubt the significance of this differentiation of strains, certain English investigators still attribute significance to it. Regardless of the explanation, there was doubtless a more malignant form of diphtheria in Europe, and one might logically wonder as to the efficacy of immunization in the United States if the more malignant strains were to be introduced.

A second factor that added to the gravity of the pre-war situation in Europe was the lack of immunization. Exact data as to extent of immunization are not available. It is obvious, however, that the procedure had not become an accepted part of the public health program to the same extent as in the United States and Canada, and that even in those countries such as Denmark, France, and Hungary where it has been used extensively, only a very small segment of the population had been reached. England had hardly been touched whereas Norway was almost completely non-immunized, the only children who had been protected being the rare child immunized by a private physician. The number of these was so small that the Norwegian authorities themselves described the country as completely non-immunized. The low incidence rates, rivalling the lowest state rate in the United States, were attributed to the efficacy of conventional restrictive measures or to other factors that had made control possible without resort to immunization.

A third element of concern was the fact that at the outset of the war, diphtheria prevailed in some parts of central Europe at a higher rate than had been experienced in this country since the preimmunization period. Exact morbidity rates are hard to determine owing to inadequacies of reporting, unknown differences in case fatality rates, and uncertainties as to population, but the data in Table 1 represent adequate approximations. The data show a high rate in central Europe and England, more moderate rates in northwestern Europe, and remarkably low rates in

TABLE 1

Diphtheria Morbidity Rates — 1939
(Per 100,000 Population)

Country	*Population* *	*Cases*	*Rate*
Austria	6,694,782	19,137	285
Denmark	3,835,000	1,106	29
Eire	2,980,000	2,087	70
England and Wales	41,400,000	47,698	115
France	42,000,000	14,019	33
Germany	69,485,732	143,585	207
Hungary	10,817,286	6,397	59
Netherlands	8,815,000	1,273	14
Norway	2,920,000	71	2.4
Sweden	6,340,000	188	3.0
Switzerland	4,230,000	751	18
United States	130,800,000	24,391	19

* All populations estimated except for those of Austria, Germany, and Hungary in which a census was taken in 1939.

TABLE 2

Diphtheria Incidence *

	Austria	*Denmark*	*France*	*Germany*	*Hungary*	*Netherlands*	*Norway*	*Roumania*	*Sweden*
1937	19,494	1,348	19,187	146,733	8,148	1,068	417	3,242	299
1938	16,800	870	16,800	149,490	6,266	1,272	190	2,272	107
1939	19,137	1,106	14,019	143,585	6,397	1,273	71	2,279	188
1940	15,910	860	13,568	138,397	4,927	1,730	149	1,839	290
1941	14,255	917	20,018	173,161	5,049	5,501	2,609	1,103	252
1942	15,534	1,661	31,466	237,037	6,676	19,527	8,349	1,612	1,285
1943	22,444	2,527	46,539	238,409	8,259	56,603	22,787	1,879	2,496
1944	....	3,333	40,230	....	....	....	....	....	4,520

* Source of data. *Epidemiological Information Bulletin*, United Nations Relief and Rehabilitation Administration. 1:241–246 (Mar. 15), 1945.

Norway and Sweden. As many of these lower rates had been achieved without resort to immunization, the population represented veritable tinder in which a conflagration might develop if the spark should spread from central Europe.

Such was the situation preceding the wartime explosion of diphtheria in northwestern Europe—a highly susceptible population already threatened on the East by a high incidence of diphtheria, much of which was of a virulent form. England alone adopted an energetic and highly successful control program through extensive immunization as a part of its civilian defense program. In 1939 France had ordered universal childhood immunization effective June 1, 1940, but France's defeat that spring had precluded enforcement of the program. Nazi conquest of Norway, Denmark, Belgium, and the Netherlands not only precluded active control measures but may even have precipitated the diphtheria outbreak through enforced malnutrition, crowding, and lack of medical supplies and services. The extent of the outbreak of diphtheria is shown in Table 2. It will be noted that Norway and the Netherlands, countries which felt the weight of the oppressor's yoke most severely, suffered the most. The disease began to increase rapidly during 1941, reaching its peak during the winter of 1943–1944. During the spring of 1944 the weekly incidence in the Netherlands was almost twice the pre-war yearly incidence. Denmark, which was possibly the best immunized country of this area, felt the increase somewhat later than its neighbors and never suffered to the same degree. In Sweden the increase began in 1942 and was of somewhat less serious proportions. Accurate data for many of these countries for 1944 will probably never be available. In 1945 and 1946 the disease has continued throughout northwestern Europe at a high rate but very much below the 1943–1944 peak. Table 3 shows sample comparative data.

TABLE 3

Diphtheria Incidence

Denmark	*Oct.*	*Dec.*	*Feb.*
1943–4	223	390	428
1944–5	306	397	367
1945–6	153	150	116
France			
1943–4	4,280	5,842	4,768
1944–5	3,266	4,329	4,125
1945–6	4,259	4,164	2,765
Norway			
1943–4	2,982	2,519	1,505
1944–5	1,031	946	758
1945–6	570	553	291

The wartime data of the British Isles present an interesting contrast to the continental experience. Table 4 shows the incidence in war-congested England and Wales on the one hand, and in neutral Eire on the other. The former, facing the obvious risk of increasing diphtheria—a risk accentuated by displacement of the population and crowding in air-raid shelters—provided for extensive immunization; the latter did little to protect itself against an in-

crease. Whereas Eire experienced an increase from less than 2,000 cases in 1941 to over 5,000 in 1944, England and Wales enjoyed a decline to the lowest level ever recorded, a rate of decline comparable in magnitude with that of the United States during the same period (Table 4). The English data are of special significance, for this county was the only part of northwestern Europe that weathered the storm with a significant decrease in diphtheria. May it not have been more than mere coincidence that it was also the only country that increased its immunization program to a point comparable with that of the United States and Canada? The data strongly suggest that immunization is actually effective in guarding against whatever strains of infection may have been operative in Europe during the war period.

TABLE 4

Diphtheria Incidence *

	Eire	*England and Wales*	*United States*
1937	2,511	61,341	28,536
1938	2,983	65,008	30,508
1939	2,087	47,698	24,391
1940	1,891	47,683	15,618
1941	1,447	51,091	17,310
1942	2,949	42,318	16,421
1943	4,650	35,944	14,943
1944	5,168	29,446	14,103

* Source of data: *Epidemiological Information Bulletin*, United Nations Relief and Rehabilitation Administration. 1:241–246 (Mar. 15), 1945.

The explanation for the dramatic outbreak in northwestern Europe is not clear. Some persons have talked freely of strains of diphtheria bacilli of increased virulence. Unfortunately for this hypothesis, no one has demonstrated strains that differ in virulence from those that prevailed in this area before the war. The usual number of *gravis* strains are still being reported in England but their significance is still problematical. Furthermore, the disease as it was seen in Norway and the Netherlands was not more severe than in former years; on the contrary, the only comforting aspect of the outbreak was the fact that the prevailing form was relatively mild even though there was a shift upward in the age distribution. It is my personal belief that the most probable explanation is to be found in factors of crowding, impaired nutrition, and lack of immunization and medical care. If the level of resistance may be depressed by faulty nutrition, persons who might normally have resisted infection or become mere carriers would have developed clinically recognizable or subclinical attacks. Doull and Lara some years ago showed that, given equal opportunities for exposing other persons, cases have an infection potential some ten times that of the carrier. A slight shift in the balance of community resistance might thus precipitate a wave of infection and this wave be augmented by increased opportunities for exposure of others owing to the overcrowding incidental to wartime conditions. I cannot escape the suspicion that these demonstrable secondary factors were of greater significance than the presence of some hypothetical and still undemonstrated enhanced virulence of the prevailing strain of infection. If this be the explanation, there is little reason to fear that other countries will be menaced by this diphtheria wave. So far, at least, we have seen no evidence of such menace, and if the experience of England is any guide, we have seen evidence that immunization in its present form is an adequate measure of protection.

Coincident with these significant phenomena in western Europe there has been an equally interesting shift in the diphtheria trend in the United States and Canada. Both countries had experienced a pre-war decline in diphtheria far greater than had been observed in any other part of the world. Beginning in 1923 the United States had enjoyed an almost precipitous drop

to previously unachieved minima. Except for slight variations and momentary upsurges, this had been a constant decline, paralleling the increasing acceptance of immunization. The drop was most marked in the northern half of the country which had formerly experienced higher rates than had the South. Today by way of contrast the diphtheria rate is very significantly higher in the South, whereas the northeastern section of the country, which for years had experienced the highest rates, has today the lowest. It is hard for me to escape the belief that this difference is not significantly related to the extent of immunization.

During the last few years, however, there has been in some places an upsurge in diphtheria that has caused some concern and even precipitated fears lest military forces returning from Europe might be introducing more virulent strains of infection. One of the earliest and most disconcerting evidences of a rise in the western hemisphere was the outbreak in Halifax in 1940–1943. While it is true that *gravis* strains were isolated here, that the age distribution tended toward older age groups, and that many of the cases were quite severe, yet there was nothing to cast serious doubt on the efficacy of immunization or to suggest that the apparent severity of the infection was associated with the introduction of more virulent strains than already existed in North America.

In the United States the increase has not been marked by particular episodes like that in Halifax. On the contrary it has been more general over certain areas. Table 5 based on data for 52 weeks as published in the *Public Health Reports,* shows the changes in incidence over the past few years. The year 1943 represented a minimum after which there was a sharp rise in 1944 and 1945. During the first half of 1946, the incidence was higher than for the corresponding period of any of the previous three years, but during the summer the trend shifted and the weekly rates for the current fall are strikingly below those of a year ago (Table 6). The rise in 1944 and 1945 was due principally to marked increases in incidence in the South and Southwest. The present decline is marked by an incidence below that which prevailed prior to the 1944 and 1945 rise in those areas. At the same time, however, we

TABLE 5

Diphtheria Cases in United States

Cumulative Totals by Years

	1941	*1942*	*1943*	*1944*	*1945*	*1946*
13 weeks	3,826	4,037	3,769	3,212	4,020	4,938
26 weeks	6,399	6,304	6,126	5,555	6,738	8,421
39 weeks	9,879	9,374	9,063	8,406	10,749	11,436
52 weeks	17,008	15,559	13,744	14,103	18,541	....

TABLE 6

Current Prevalence of Diphtheria

United States by Weeks

Week	*1940*	*1941*	*1942*	*1943*	*1944*	*1945*	*1946*
35	185	360	248	198	205	284	193
36	227	310	321	314	239	410	221
37	249	393	349	302	301	446	273
38	336	444	385	326	325	467	295
39	307	599	448	425	352	532	313
40	432	517	550	387	409	514	351

are seeing a slight increase in rates in the North, a rise that is more than offset by the decline in the South.

These changes in incidence do not suggest changes in the character of diphtheria, nor are they suggestive of the introduction of strains of enhanced virulence. On the contrary, they probably represent the normal fluctuation in the incidence of the residual diphtheria. We have enjoyed declines in rates for so long that many persons seem to have forgotten that in the preimmunization era, diphtheria showed periodic fluctuations in incidence, with peaks spaced three to five years apart. Careful study of the declining morbidity rates reveals that the rate of decline was not constant; on the contrary it showed variations comparable to the previous periodic changes in incidence. These fluctuations were not constant throughout the nation. It is logical to believe, therefore, that the episodes of the past three years do not imply any profound or even significant change in the diphtheria problem, but rather that they represent the normal fluctuations in incidence that were formerly masked by the precipitous decline of the disease. There is no evidence that they are due to defects in immunization. On the contrary, the increases were greatest in those areas where diphtheria was already highest. The best immunized communities with the lowest rates experienced the smallest rise in incidence. Furthermore, so far as I am aware, nowhere has there been a sharp upsurge attended by enhanced severity of the infection and isolation of an especially virulent strain of organisms.

SUMMARY

From the foregoing it is apparent that the past five years have witnessed an actual increase in the incidence of diphtheria. Although occurring throughout the world, the only significant episode has been that of northwestern Europe where an amazingly high rate occurred in certain occupied areas, with appreciably smaller increases in neutral countries. There is reason to believe that this was attributable to secondary epidemiological factors rather than the appearance of new virulent strains, and that it was controllable by vigorous programs of immunization. The rise in the United States during the past two years is probably an expression of the normal periodic fluctuations in incidence, fluctuations that have heretofore been largely obscured by the rapid increase in the proportion of the population that was being immunized. That this is nothing more than a transient rise is suggested by the fact that the disease is again declining rapidly in those parts of the country chiefly responsible for the rise.

There is no evidence that especially virulent strains have been introduced from Europe or that immunization is not effective against all prevailing strains.

Rhus Dermatitis as a Public Health and Health Education Problem

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PUBLIC health authorities can and should secure the elimination of most of the Rhus poisoning in the United States within the next few years. The effectiveness of two new chemical herbicides, ammonium sulfamate and 2-4 dichlorophenoxyacetic acid, which have just come into use, provide the first really promising solution of this public health problem. By means of community organization through health education, the eradication of the plant *in frequented areas* is now readily possible.

EXTENT OF RHUS POISONING

Rhus poisoning has received only minor attention from public health authorities, yet the U.S.P.H.S. study on the illnesses of 38,544 people shows a rate of 2.5 cases per 1,000 people annually.[1] Seventeen and seven-tenths per cent were bed cases and were in bed 3.6 days on the average. The mean days of disability per total case were 1.7; per bed case they were 4.9. The average total duration of the symptoms was ten days. Cases appeared in every part of the country, the crude case rate per 1,000 being 2.3 in the Northeast, 1.5 in the North Central states, 2.5 in the South, and 4.6 in the West. The numbers are too small to make these figures a reliable index of frequency, but they do show the national distribution of the plant. Of the cases 71.9 per cent were attended medically, the average number of calls per attended case being 1.93.

National estimates using these figures as a basis indicate 350,000 cases per year, with approximately 600,000 days of lost time and 465,000 medical visits. Most cases are uncomplicated, but abscesses, enlarged glands, fever and septicemia from a secondary infection occasionally occur.[15]

The incidence of Rhus poisoning runs much higher among youth in localities where the plant is profusely distributed. In one student body where data were available upon about 5,000 students for a 2 year period, 6.5 students per 1,000 were hospitalized yearly for an average of 6.9 days each, representing a per capita cost of 56 cents for each student in the student body. In addition, 41 students per 1,000 sought medical aid but did not require hospitalization.[2] Many others treated themselves.

POPULAR MISCONCEPTIONS

There are three widespread misunderstandings:

1. *The public thinks of poisonous forms of ivy, or oak or sumac.*

Really, of course, the plants are of only a single genus, *Rhus* or *Toxicodendron,* and perhaps of only one species. In the past over fifty species have appeared in the literature under the genus *Rhus*. They have now been given a new classification accepted by the U. S. Herbarium in Washington, D. C., under the genus name *Toxicodendron.*[3] The species listed in this classification are: (1) *Toxicodendron toxicodendron* (the former *Rhus toxicodendron* or *Rhus quercifolia,* (2) *Toxicodendron radicans* (eastern ivy), (3) *Toxicodendron diversilobum* (western poison oak, *Rhus lobata* or *Rhus*

diversiloba), (4) *Toxicodendron vernix* (swamp sumac, *Rhus vernix, Rhus venenata*).

The first three species were recently brought from different parts of the United States to Texas by Shelmire.[4] Having grown side by side they were so similar as to suggest that they are a single species with rather consistent geographic variations. Chemical and biological research indicates that the same chemical substance (urushiol) is the toxic substance in all of these plants.[5]

2. *It is generally believed that some individuals are so sensitive that they are poisoned if they "go anywhere near the plants."*

Studies of urushiol show it to be a dializable but nonvolatile oily resin. Soot particles in the smoke from burning plants carry enough of the substance to produce poisoning,[6, 7, 15] but otherwise it is not air-borne, although statements to that effect have appeared in the literature until recently.[16]

How is it then that it has been practically impossible for highly susceptible persons to avoid repeated poisonings? The answer lies in the fact that poisoning occurs by indirect as well as direct contact, and as little as 0.001 mg. will cause dermatitis in such persons.[8] The poison is transmitted indirectly by cats, dogs, horses, and other animals which walk over the plants, and also by clothing, tools, soil, and other surfaces. It is quite possible that insects may carry enough poison from broken leaves to cause dermatitis.[5] Naturally persons say they can get poisoned "without going outside the house," or in various apparently strange ways. This situation is similar to that which existed a century ago when even the profession regarded typhoid fever as air-borne.

The difficulty of avoiding poisoning is increased by the fact that the plant is pleomorphic. Poison oak may be a slender, inconspicuous vine bearing leaves some distance apart, or a more conspicuous vine, or an upright stock growing out of the ground, or a bush running to almost tree-like proportions. The leaves vary in shape and the plant is often partly hidden by other plants among which it is growing. Interviews with college students who have grown up in areas where the plants are plentiful show that a large percentage of them do not recognize the plant in its various forms.

The plants are spread not only by underground roots and the fruit which is dropped to the ground, but also by seeds in the droppings of the birds which have eaten the berries.[9] Thus it appears in all sorts of places, in fields, in woods, in parks, in gardens and by the roadside. The writer has photographed it growing through cracks in the pavement.

It is thus the plant's toxicity, pleomorphism, and ubiquity which make poisoning extremely difficult to avoid by the highly susceptible.

3. *There is widespread confusion as to the nature of susceptibility and "immunity."*

The idea that some persons have a true, natural immunity is wrong. It is believed that we are dealing with allergy and desensitization rather than with a true immunity, natural or acquired.

"All observers believe that the typical dermatitis is the result of contact after previous exposure and sensitization to the active substance in the plants. Infants, adults, and certain animals have been sensitized with the plant extracts or with urushiol. There is also some evidence that this sensitization resulting from either experimental or natural contact diminishes in intensity if not maintained by repeated exposure."[5]

Some persons have a marked resistance to the action of the poison,

although their skin becomes inflamed upon prolonged exposure to urushiol. Such a person may have had repeated contact with the plant without symptoms, only to develop a severe poisoning upon a subsequent exposure.[10] Medical authorities have warned against the practice of chewing leaves in an attempt to produce immunity, because the practice does not give protection but often produces symptoms.

PREVENTIVE PROCEDURES

Attempts to teach children and the general public to recognize and avoid these plants could be carried farther but to date, as we have seen, it has been relatively ineffective. Prevention or early treatment by prolonged washing with alkaline soap or a chemical agent for removing the poisoning is effective only if undertaken "within a few minutes after contact."[9] The victims often do not know when they have been exposed, and urushiol on the skin is invisible. After the area reddens and begins to itch "any treatment now known will serve only to make the patient more comfortable; it will do little to hasten recovery," according to some authorities.[9] However, the Boy Scouts of America report good results from experience in many parts of the country in treating vesicular eruptions with 10 per cent tannic acid solution as recommended by Schwartz and Warren.[17] Many people claim great benefit from one or another of the many suggested remedies, but none appears consistently beneficial for different individuals or even for the same individual.[15] Clothing or tools can be decontaminated by immersing them for 15 or 20 minutes in 1 per cent solution of calcium hypochlorite, but the practice is little followed.

The failure of these hygienic measures has led to widespread attempts at desensitization, but this too has proved far from satisfactory. "The Council of Pharmacy and Chemistry admitted rhus preparations to *New and Nonofficial Remedies* in 1926, but since then there has been a growing controversy regarding the real value of rhus preparations."[5] There is some evidence that the ingestion of extracts over a period of 6 weeks or less can produce temporary desensitization if the doses are so large as to cause rashes and gastrointestinal symptoms, but the Council states[5] that "there is no controlled statistical evidence that the daily ingestion of small amounts of extract over a long period will modify the dermal test or give protection, and the ingestion of large doses within a period of a few months is still experimental." Moreover, this intensive treatment is probably unsafe except under experienced supervision.

There is some clinical evidence that intramuscular inoculation has conferred temporary resistance, but the patch test was not modified in these studies and the inoculated subjects were not vigorously exposed to poison after the inoculation.[5]

Preventive treatment with ivy extracts thus seems far from satisfactory. The effectiveness is uncertain and the process is uncomfortable as well as expensive for the individual. Even if it were effective, the preventive treatment would have to be continued year after year because desensitization is only temporary, when it does occur.

Our unsatisfactory experience in preventive hygiene and preventive medicine turns our attention to environmental control, where we now have for the first time some promise of success. Earlier attempts to kill the plants or dig them out were unsuccessful but the new chemicals kill the plants, root and all. You may feel that it is hopeless to attempt to eradicate the plant immediately over millions of acres of land. Complete eradication at once is not necessary. The poison is not air-borne

and the cheapness of some of the chemical herbicides makes it possible to eradicate the plant near dwellings and in other frequented areas like roadways, parks, and cultivated lands, even if the growth is fairly extensive.

CHEMICAL AGENTS

With ammonium sulfamate or "Ammate" and 2,4-dichlorophenoxyacetic acid, or 2,4-D, commercial companies engaged in weed control are now ready to guarantee the complete eradication of poison ivy or poison oak.

Ammonium sulfamate is not explosive or poisonous to animals, and it is now available in a form which is not corrosive to metals. It is highly effective and can be used later in the season than 2,4-D. It kills other plants. Grass tops are killed but the grass will usually come up from the roots. It is rather expensive, costing about 30 cents a pound at retail and 15 cents a pound in larger quantities. About one pound is needed in making a gallon of spray. A heavy growth of poison ivy or poison oak would require from 100 to 300 gallons of spray per acre.

2,4-D is a hormone-like chemical which in small quantities stimulates growth but kills active broad-leaved plants completely when applied to the leaves in greater concentration. Some respraying of missed plants after a month, and a yearly spring check-up will be needed. But when the plant is eradicated in frequented areas, the seeding of new plants will be limited.

The early research on this substance was by Pokorney[18] and by Zimmerman and Hitchcock,[12] in 1941 and 1942. The methods of using it for killing plants were developed by Jones,[19] Mitchell and Hamner,[13] and others. Wide uses are being found for its weed-killing action.[10] It seems likely to prove of public health significance in the elimination of ragweed as well as poison ivy. Ragweed is among the more sensitive of the common weeds and considerable success has been achieved in preventing pollen formation by the use of low dilution of 2,4-D as a water spray and also in the form of a fog.[14]

2,4-D is relatively inexpensive. The spray can be made for 8 to 12 cents per gallon in small quantity and for as little as $3 to $4 per 100 gallons. It is not a fire hazard nor is it corrosive to metals or irritating to the skin or poisonous to man or other animals.[11] It does not kill grass in the concentration used but it does kill many broad-leafed plants besides poison ivy. These qualities make 2,4-D more practical than ammate for use in large areas.

Many chemical companies manufacture 2,4-D compounds under various trade names. These weed killers vary in price, in concentration, and in the nature of the chemical compound, which may be the dichlorophenoxyacetic acid as such or the ammonium salt, the sodium salt, the triethanolamine salt, or the methyl, ethyl, or butyl ester. We have little data on their relative effectiveness. 2,4-D is most effective on poison ivy around the end of the growing season. Moist soil and sunlight seem to add to its effectiveness. It always acts slowly, requiring about a month to produce killing action.[11]

The following precautions should be advocated in advising the use of 2,4-D:

1. Be sure the chemical is well mixed in the correct concentration.
2. Spray when the leaves are well developed, giving a large surface. (2,4-D is not effective late in the season when the plant has become dormant.)
3. Spray the whole plant and cover the leaf surfaces as completely as possible, but be careful that the drift of the spray does not wet flowering plants or fruit trees. (Neither moisture on the leaves, nor rain four or more hours after spraying will prevent the killing action of the spray.)
4. If a few plants have survived, kill them by spraying a second time in three or four weeks.

5. Examine the area the next spring and kill any new plants which may have come up from seed.

6. Clean spraying equipment thoroughly before using other sprays on cultivated plants.

GETTING RESULTS

Eradicating rhus plants with 2,4-D is not a completely simple and foolproof procedure. Obvious difficulties appear when any one of the above directions is not carried out correctly. But real progress can be made through community organization and health education.

An effective community organization was developed in Berkeley, Calif., in the spring of 1946, thanks to an alert Chief of the Park Division, Charles Cresswell; a progressive Health Officer, Dr. Frank Kelley; and an interest on the part of university personnel. It showed clearly that community interest and educational activities can be made effective.

The county medical society and the local dental association joined the project at the beginning. A demonstration of killing poison oak with 2,4-D was carried out on the university campus, the success of which was recorded in still and in moving pictures. The student body put on an educational program of its own, as did the public schools. Twenty-five thousand "stuffers" were sent to citizens with monthly bills from the city and from public utilities. The press, the local radio station, the Boy Scouts, the service clubs, the women's clubs, and commercial interests all participated. As a result an extensive spraying program got under way in local and regional parks, on university grounds, along the roadsides, and on the private property of many scores of individual citizens. There is an ordinance providing that the city can kill noxious weeds on privately owned land and charge the cost to the property owner. This may prove valuable if some citizens fail to act under the stimulus of education.

FUTURE PROGRESS

Facts and experience now available show that plant eradication is a practical means of attacking the problem of rhus dermatitis. We still need studies on the relative effectiveness of the different commercial products and the best methods of using them. A study should be made to show how rapidly and to what extent urushiol disappears from the resin cells or resin canals of the bark, roots, stems, and leaves after the plant has been killed. It loses its toxicity upon oxidation and the plant contains an enzyme, laccase, which oxidizes the poison when the plant is injured and its juices exposed to air.[5] Preliminary tests have indicated that the dry, dead plants are much less dangerous than the live plants.

These studies and others will be forthcoming from commercial agencies and from governmental agencies in agriculture and in health. Patterns for community organization need further development. One national agency which is considering ways of effective action and which could render a most important service is the Boy Scouts of America. Park departments and recreation agencies can be counted on for effective action as can the wide variety of agencies with civic interests. We can prevent a quarter million cases of ivy poisoning a year—some of them very serious—if we use the necessary leadership and effort.

SUMMARY AND CONCLUSIONS

1. Preventive hygiene and attempted desensitization have not proved effective in preventing rhus dermatitis.

2. Eradicating the plants in frequented areas by means of 2,4-D or ammonium sulfamate provides a practical means of prevention.

3. Effective community organization for

health education in the eradication of poison oak has been demonstrated.

4. Health department leadership and the coöperative efforts of community agencies can reduce the now prevalent dermatitis to a relatively rare illness.

REFERENCES

1. Collins, Selwyn D. Duration of Illness from Specific Diseases among 9,000 Families Based on Nationwide, Periodic Canvass, 1928–31. *Pub. Health Rep.*, 55:20 (May 17), 1940.

2. *California's Health.* Facts about Poison Oak. June 30, 1946.

3. Spain, W. M. *J. Immunol.*, 7:179, 1922.

4. Shelmire, B. *J. Invest. Dermat.*, 4:337, 1941.

5. Council on Pharmacy and Chemistry. Report on the Status of Poison Ivy Extracts. *J.A.M.A.*, 127:14 (Apr. 7), 1945.

6. McNair, J. B. *Am. J. Botany*, 8:242, 1921.

7. von Adelung, E. An Experimental Study of Poison Oak. *Arch. Int. Med.*, 11:148 (Feb.), 1913.

8. Stevens, A. B., and Warren, L. E. *Am. J. Pharm.*, 79:499, 1907.

9. Harlow, W. M. Poison Ivy and Poison Sumac. New York State College of Forestry *Bulletin*, Syracuse University, 1946.

10. United States Public Health Service. Schwarz, L., Dunn, J. E., and Goldman, F. H. Ivy and Sumac Poisoning. Suppl. 161, *Pub. Health Rep.*, 1940.

11. Hildebrand, E. M. War on Weeds. *Science*, 103:2677:465–468 (Apr. 19), 1946. In the same issue see also "Plant Growth Regulators" by the Special Projects Division, Chemical Warfare Service, pp. 469–470 and "Technical Papers" pp. 472–479, and Bibliography.

12. Zimmerman, P. W., and Hitchcock, A. E. Contr. Boyce Thompson Inst., 12:321–344, 1942.

13. Mitchell, J. W., and Hamner, C. L. *Bot. Gaz.*, 105:474–483, 1944.

14. Smith, F. G., Hamner, C. L., and Carlson R. F. Control of Ragweed Pollen Production with 2,4-Dichlorophenoxycetic Acid. *Science*, 103:2677 (Apr. 19), 1946.

15. U. S. Dept. of Agriculture. Crooks, D. M., and Kephart, L. W. Poison Ivy, Poison Oak and Poison Sumac. *Farmers' Bull.*, 1972:1–30, 1945.

16. Dermatitis Venata, Queries and Minor Notes. *J.A.M.A.*, 102:1517 (May 5), 1934.

17. Schwartz, Louis, and Warren, Leon H. Tannic Acid Treatment of Poison Ivy Dermatitis. *Health and Safety* (Boy Scouts of America), Vol. 6, No. 4 (Aug.), 1941.

18. Pokorney, C. F. *J. Am. Chem. Soc.*, 63:1786 (June), 1941.

19. Cates, J. S. A Knockout for Weeds. *Country Gentleman*, Jan., 1945.

The Present Status of the Control of Air-borne Infections*

FOR several decades prior to 1934 it was generally believed that the acute respiratory and contagious diseases were spread largely by contact.[1, 2] Since that time, however, it has been clearly established that the air of enclosed spaces may become heavily contaminated with a variety of pathogenic microörganisms, and that certain specific infections may be transmitted to experimental animals by the aerial route.[3–11] These observations have led many students to question the predominant rôle of contact in the spread of infection and to undertake investigations in the attempt to control disease by the application of engineering methods to the disinfection of air (sanitary ventilation) and to the prevention of aerial contamination (dust suppression).[12–17]

Numerous reviews of the subject have been published in scientific journals,[18–25] and optimistic but frequently uncritical stories of the potentialities of the field have reached the commercial and lay press. The purpose of this report is not primarily to present an additional review of recent progress but rather to give a critical evaluation of the present status and limitations of existing methods. Such an evaluation depends not only upon the engineering aspects of air sanitation but also on the epidemiological evidence supporting the concept of air-borne infection.

DEFINITION OF TERMS

Some confusion has arisen in the discussion of the subject because of the lack of a clear definition of terms. In the present report, the term *sanitary ventilation* will be used to connote the disinfection of air by actual ventilation or its equivalent through such methods as ultra-violet irradiation or germicidal vapors. The term *air sanitation* will include all types of applications of engineering methods to the prevention and removal of air contaminants such as dust, bacteria, and other noxious agents.

There is need also for a clarification of the term "air-borne infection." This expression has been applied to a number of respiratory and contagious diseases and to secondary skin and wound infections which are known to be spread, at least in part, by contact. A practical delineation of meaning of the terms "contact" and "air-borne" is desirable.

The routes by which these types of infectious agents travel from one individual to another may be classified under four general headings:

1. *Contact*, transmission directly, as in kissing, or indirectly by contaminated hands, toys, surgical instruments, or other material objects.

2. *Droplets*, transmission directly by projection onto the conjunctivae, mouth, skin, or open wounds.

3. *Droplet nuclei*, transmission indirectly by inhalation of the small residues which result from evaporation of droplets, and which may remain suspended in the air of enclosed spaces for long periods of time.

4. *Dust*, transmission indirectly by inhalation or settling of larger particles

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which arise from secondary reservoirs of infection on floors, clothes, or bedding, and which remain suspended in air for short periods of time.

The spread of infection by contact or by droplets is subject to control by methods which influence human behavior or restrict individual activity, such as the promotion of personal hygiene, isolation, quarantine, aseptic techniques, and barrier nursing. The spread of infection by droplet nuclei and dust is an environmental problem amenable to attack by methods of air sanitation.

Confusion arises in regard to the rôle which should be ascribed to droplets. Although these actually travel short distances through the air, it has been traditional to consider them as an intrinsic aspect of contact infection.[1] Furthermore, droplets are not affected appreciably by any of the devices of sanitary ventilation which have yet been developed. In the present discussion, therefore, the term "contact" will be considered to include droplets, and the term "air-borne" will be restricted to transmission of infection by droplet nuclei and dust.

GENERAL CONSIDERATIONS

On the basis of this definition, the technical aspects of the problem will be limited to an evaluation of the present status of the devices of air sanitation. Broader aspects of the problem must also be considered. It is necessary to know the true relative importance of air-borne and contact spread of disease under a wide variety of environmental conditions. The disinfection of air can be of practical value only in situations where the aerial route of infection is important in the mode of transmission.

Other considerations beyond the scope of the present report cannot be wholly ignored. The methods of air sanitation are in competition with other control measures. Aseptic techniques and isolation precautions are well established procedures in operating rooms and hospital wards. Immunization has been highly successful in certain specific diseases. Chemoprophylaxis may have limited applications. Therapy with sulfonamide drugs and antibiotics reduces in large measure the serious consequences of many bacterial infections. The future of air sanitation in the prevention of disease depends upon the demonstration of its practical superiority to other approaches to the problem.

PRESENT STATUS OF CONTROL METHODS

The methods of controlling air-borne infection have developed in four principal directions: (1) mechanical ventilation, (2) ultra-violet irradiation, (3) disinfectant vapors, and (4) dust suppression. In developing these procedures, the usual criteria of effectiveness have been the reduction: (1) of test organisms added to air, (2) of the total bacterial count of air, (3) of certain microörganisms usually found in the nasopharyngeal tract, and (4) of certain specific pathogens such as beta hemolytic streptococci or influenza virus A. While bacteriological criteria have been of great practical value in the development of the procedures, they are insufficient. The final criterion of effectiveness must be the demonstration of a significant reduction in the incidence of disease in well controlled studies in human populations living under natural conditions.

Ventilation — Simple ventilation by means of open windows has been a common hygienic practice for many years. Its use has been traditional in military barracks where it has been notable for its unpopularity among troops and the difficulty of its consistent enforcement. British workers have recently reëmphasized the desirability of open window ventilation in contagious disease wards.[26] Although it

is probable that such measures may have considerable effect in reducing the bacterial contamination of the air, they are obviously expedients of limited value which are subject to variable climatic conditions and which may cause extreme discomfort.

Under certain specialized conditions, the control of air currents and air conditioning either alone or in conjunction with physical barriers and other procedures has been applied with somewhat variable success to the control of cross-infections in surgical dressing rooms,[27] in pediatric and premature infant wards,[15, 28–31] and in animal colonies and laboratories of research institutions.[32, 33] Under more general conditions, however, the purification of air through washing, filtration, and forced ventilation is a relatively inefficient method of reducing the bacterial content of air in occupied spaces.[34] Normal human activity maintains a continuous source of contamination which is difficult to eliminate by economical rates of air dilution. Nevertheless, a careful consideration of temperature, relative humidity, air currents, and rates of introduction of outside or recirculated air is fundamental to the effective application of the other more efficient means of air disinfection.

Ultra-violet irradiation — The bactericidal action of ultra-violet light is well established and accurately defined.[24, 35–40] The effectiveness decreases rapidly with increasing relative humidities above 55 or 60 per cent. The rays are more efficient against small particles, such as droplet nuclei, than large particles, such as dust and lint, in which microörganisms may have a protective coating impermeable to the bactericidal rays. Since germicidal intensities are damaging to the human skin and conjunctivae, radiation must be restricted to the upper air or to carefully placed light screens or barriers at the entrance to rooms or to isolation cubicles.[41] Under standardized test conditions practical intensities of ultra-violet light have been shown to have a marked effect in lowering the bacterial contamination of the air equivalent to 100 or more air changes an hour.[42] Under field conditions, this degree of effectiveness is not always reached; but, nevertheless, a pronounced effect may be induced.

The development of the low pressure mercury vapor tube, of carefully designed fixtures, and of accurate photometers to measure intensity makes possible the safe and reasonably economical installation of ultra-violet lights in a variety of circumstances. Each particular environmental situation, however, presents a specialized problem which requires the expert consultation and continued supervision of ventilation and irradiation engineers.[24]

The use of ultra-violet irradiation in the control of infection has been undertaken in operating rooms, in pediatric and contagious disease wards, in schools, in military barracks, and in children's institutions. The most impressive results have been reported from operating rooms.[14, 43] The residual contamination of the air which remains even after the most rigid aseptic precautions can be greatly reduced by intensive irradiation. Reports indicate substantial reductions in the incidence of secondary infections of originally clean operative wounds. To achieve such results, with early installations it appeared to be necessary to take extreme precautions to protect the operating personnel; but improved designs have made such precautions unnecessary.[43]

Ultra-violet irradiation of the upper air and the use of light screens in front of cubicles and in entryways to pediatric and contagious disease wards have been employed in a number of institutions. Rather dramatic results have been reported by a number of workers in carefully controlled experiments.[15, 31, 44]

Negative results have been reported by others.[45–47] It is difficult to evaluate these because of (1) inadequate information regarding the efficiency of the installations; (2) the lack of a sufficient number of controlled observations; and (3) the problem of distinguishing which infections were air-borne and which may have resulted from contact.

Irradiation of the upper air of schoolrooms in Swarthmore and Germantown, Pa., has been carried out continuously since 1937.[13, 48, 49] During the early part of this period, two epidemics of measles were apparently prevented among children in the primary grades whose rooms were irradiated, although large epidemics occurred among the less susceptible children in the secondary grades whose rooms were not irradiated. Beneficial effects in the reduction of the incidence of chicken pox have also been reported, although the procedure was less successful in controlling an epidemic of mumps which occurred in the early fall of 1941 when relative humidities were high.

The application of ultra-violet rays in the schoolrooms provides a very valuable approach to studying the importance of air-borne spread of infection, but the extent to which this procedure should be applied generally is uncertain. More extensive studies, now in progress, should add materially to our understanding of the problem.

Irradiation of the upper air, of the corridors, and of the floors of the naval barracks at Camp Sampson, New York, was investigated during the winter of 1943–1944.[50] In one group which received high intensity irradiation, there was a 25 per cent lower incidence of "respiratory admissions" than among comparable groups of controls. These studies have been continued and extended, but results have not yet been reported.

One study of ultra-violet irradiation has been conducted in the restricted population of an institution for delinquent adolescents in Washington, D.C.[51] No reduction in the incidence of respiratory disease was demonstrable over a period of two years, but the total incidence rates were generally so low that a measurable effect could hardly have been anticipated.

These studies suggest that ultra-violet irradiation has its most direct application in specialized situations where the incidence of cross-infection is high, where the consequences of such infections are serious, and where the population is strictly regimented, as in operating rooms, pediatric hospitals, and analogous situations. However, the evidence, at present available, is insufficient to warrant the use of ultra-violet lights in more general population groups except in well controlled research studies.

Disinfectant vapors — Numerous vapors have been shown under experimental conditions to have a powerful bactericidal effect in air. Among these are hypochlorous acid gas,[52] lactic acid,[53] iodine,[54] and certain glycols.[16, 21, 55, 56] Triethylene glycol appears to be the most adaptable for general use because of its high bactericidal potency, its reasonable cost, and its freedom from odors, toxicity, and corrosiveness to metal surfaces. The mechanism of action of this vapor has been carefully studied.[57] Its bactericidal effect depends upon its relative saturation in the air rather than upon the total concentration. Under laboratory conditions the vapor is most effective at relative humidities between 30 and 55 per cent. On hospital wards, however, effective bactericidal action was obtained at relative humidities as low as 18 per cent.[58] Methods for vaporizing triethylene glycol into the air and for maintaining its relative saturation at a constant level have been developed on an experimental basis and give promise for being standardized for practical purposes.[57, 59]

Glycol vapors are more effective

against small particles or droplet nuclei in the atmosphere than they are against larger dust particles.[60] The most effective reduction in bacterial contamination has been observed when glycol vapors have been used in conjunction with dust suppressive measures.[61]

Studies of the effect of glycol vapors in the control of respiratory infections have been conducted in isolation wards of army hospitals,[61, 62] in barracks,[63, 64] and in a home for crippled children.[65] Most of these studies, however, were undertaken prior to the development of accurately standardized methods for maintaining the concentration of vapors at a bactericidal level. Observations have not been continued for sufficient periods nor have controls been adequate to provide conclusive evidence.

The use of glycols has one distinct advantage over ultra-violet irradiation in that the vapor may permeate all parts of the room and is not restricted to the upper air. There are, however, a number of technical problems which remain to be solved, among which are practical methods of vaporization and maintenance of an adequate and even distribution of bactericidal concentrations of vapor.[66]

Dust suppression—The application of light paraffin or spindle oil to the floors of military barracks and army hospital wards has been shown to be a simple and effective procedure for laying dust and thereby reducing the bacterial contamination of the air resulting from sweeping or other activity.[67] A saturation dose of oil to unvarnished soft wood floors remains effective for a period of three months or longer. More frequent treatments may be necessary for hardwood floors. The procedure cannot be used for concrete, linoleum, or waxed surfaces, but the daily use of oiled sawdust or oiled mops during sweeping is quite effective.

Numerous methods have been developed for the oil impregnation of blankets, bedding, and certain types of clothing.[68–73] Treated fabrics show marked dust and bacteria holding properties. Recently, a simple method has been developed which can be applied as a routine procedure in any modern well equipped laundry.[72] A stable oil in water emulsion, made with a neutral detergent, Triton N.E., is added at the time of the final rinse in the laundering process. After such treatment, woollen fabrics such as blankets retain their dust and bacteria holding properties for many months, even after subsequent washing.

A few controlled studies of the effect of dust suppressive measures on the incidence of respiratory disease have been carried out. A marked reduction in the incidence of beta hemolytic streptococcal cross-infections was observed in one measles ward compared with an untreated adjacent ward to which alternate cases were admitted.[17] At Fort Bragg, N. C., during the winter of 1944–1945, four battalions of recruits (2,000–4,000 men) were observed over a period of 6 months.[74] In the barracks of alternate batteries floors and blankets, sheets, pillow cases, and mattress covers were oil-treated. During November and December when respiratory diseases were endemic, somewhat lower rates were observed in the treated groups. During the 4 month period from January to April, however, when undifferentiated acute respiratory disease was epidemic, no difference in incidence between test and control groups was observed. In this experiment the incidence of beta hemolytic streptococcal infections was too low to test the effect of the procedures on this group of diseases.

The oiling of floors and bedding has been developed to the stage of practical application. These methods are particularly useful for the maintenance of general cleanliness; they result in a marked reduction in the degree of bacterial contamination of the air; they

can be recommended for use as general hygienic measures; but there is insufficient evidence at the present time to establish their value in the control of respiratory diseases.

EPIDEMIOLOGICAL CONSIDERATIONS

The limiting factor in the evaluation of the effectiveness of measures to control air-borne infection is the lack of sufficiently extensive experimental and epidemiological observations to determine the true relative importance of this mode of spread. The available data can be grouped under three broad headings: (1) Experimental demonstrations of air-borne infection, (2) descriptive field observations, and (3) controlled studies. Each of these will be discussed briefly.

Experimental demonstrations—A limited number of infections have been transmitted to animals and to man by the air-borne route under strictly controlled conditions. Examples of these experiments are the transmission of tuberculosis to rabbits,[11] of influenza A and B to mice and ferrets,[4, 75–77] of canine distemper to ferrets and dogs,[78] and of poliomyelitis to monkeys.[79] During the direct inoculation of volunteers with the viruses of measles[80] and atypical pneumonia,[81] cross-infections were observed among uninoculated individuals under conditions which strongly suggested the air-borne route of infection. These observations clearly demonstrate that certain infectious agents may be acquired by inhalation in sufficient doses to produce clinical disease.

Descriptive field observations — In most epidemics of respiratory and contagious diseases which occur in nature, it is not possible to distinguish between contact, droplets, and air-borne methods of transmission. In certain laboratory epidemics, however, conditions have precluded any other means of spread than the air. This is particularly true for psittacosis[82] and Q fever,[83, 84] and it also probably applies to a number of bacterial, rickettsial, and viral infections which are known to be peculiarly dangerous to laboratory workers or which are difficult to exclude from animal colonies.

The occurrence of cross-infections in communicable disease wards and of secondary infections in clean surgical wounds was formerly considered to be *a priori* evidence of faulty technique. The consistency with which a residual number of such infections have continued to occur, however, in spite of the most rigid precautions favors the concept of air-borne spread.[22] The demonstration of large secondary reservoirs of beta hemolytic streptococci, of diphtheria bacilli, of staphylococci and other pus forming organisms in the environment, and in the dust surrounding patients also supports strongly the possibility of air-borne transmission. It should be emphasized, however, that under such conditions the likelihood of contact infection is also greatly increased, and it is difficult to ascertain the relative importance of these two modes of spread.

Controlled studies—As yet, an insufficient number of adequately controlled studies have been reported upon which to base any general conclusions. Only certain tentative indications may be outlined at the present time. For example, the reduction in the incidence of operative wound infections and of cross-infections in pediatric and communicable disease wards and of measles in certain schools by the use of ultra-violet irradiation suggests that air-borne transmission, particularly by droplet nuclei, played an important rôle under the particular conditions of those experiments. Similarly it is reasonable to conclude that droplet nuclei were of some importance in the transmission of acute respiratory diseases in the naval barracks at Camp Sampson. On the other hand, an equally logical conclusion can be drawn

from the studies at Fort Bragg that dust was an unimportant factor in the spread of the epidemic acute respiratory disease prevalent at that post. Furthermore, the spectacular results which followed the introduction of aseptic surgery and isolation techniques thirty to fifty years ago indicate the importance of contact infection in operating rooms and hospital wards.

Conclusive evidence is not available at present that the air-borne mode of transmission of infection is predominant for any particular disease. There is no justification for the conclusion that the traditional methods of controlling contact infection can be ignored or relaxed.

There is need for more precise knowledge regarding the epidemiology of acute infectious diseases in crowded populations. For example, recruits in military training camps generally experience an unusually high incidence of acute respiratory disease and atypical pneumonia during winter months.[85] During the war years, devastating epidemics of beta hemolytic streptococcal infections and acute rheumatic fever occurred in certain camps.[86–89] The value of air sanitation for controlling these epidemics depends upon the extent to which the infections may be air-borne. The conduct of controlled studies using various techniques of disinfecting air and suppressing dust is one of the few means of answering this question.

CONCLUSIONS

The subcommittee offers the following five points to summarize its group judgment concerning the present status of the application of engineering methods to control air-borne infection:

1. The oiling of floors, blankets, and bedding has now developed to the point of practical application in the suppression of dust. Such measures constitute good housekeeping. They reduce bacterial contamination of the air, but there is as yet insufficient evidence that they prevent disease. Dust suppression should be applied wherever practicable in conjunction with ventilation, ultra-violet irradiation, and disinfectant vapors, when the latter methods are employed.

2. The available evidence strongly indicates that methods of air disinfection (ventilation, ultra-violet irradiation, and glycol vapors) are useful adjuvants to aseptic techniques in the reduction or elimination of air-borne infections in operating rooms and in contagious disease and pediatric wards. Installations are indicated under conditions where there has been demonstrated or there exists potentially a significant incidence of cross-infection or a serious risk to patients. It is essential that competent engineering supervision be available to insure the adequacy of the original installation, to maintain its continued effectiveness, and to protect both personnel and patients.

3. It is not yet possible to compare the relative efficiency of ultra-violet irradiation and glycol vapors. Only the former method has been developed to a point of practical application. Recent designs of glycol vaporizers and automatic control devices give promise that adequately controlled studies may be conducted in the near future. The relative merits of the two procedures will involve such problems as cost, safety, and the consistency of effective operation based upon long experience.

4. The general use of ultra-violet irradiation or disinfectant vapors in schools, barracks, and in specialized industrial environments is not justified at the present time. There is great need for further carefully controlled field studies to define the mechanisms of the spread of infectious disease among these types of populations.

5. There is no justification for the indiscriminate use of ultra-violet light or other methods for disinfecting air in homes, offices, or places of public congregation.

REFERENCES

1. Chapin, C. V. *Sources and Modes of Infection.* Wiley, New York (2nd ed. rev.), 1916.

2. Chapin, C. V. The Relative Importance of Aerial and Contact Infection. *Trans. 15th Int. Cong. Hyg. and Demog.*, 4:9–17, 1913.

3. Wells, W. F. Air-borne Infection: II. Droplets and Droplet Nuclei. *Am. J. Hyg.*, 20:611–618, 1934.

4. Wells, W. F., and Brown, H. W. Recovery of Influenza Virus Suspended in Air and Its Destruction by Ultra-violet Irradiation. *Am. J. Hyg.*, 24:407–413, 1936.

5. White, E. On the Possible Transmission of Hemolytic Streptococci by Dust. *Lancet*, i:941–944, 1936.

6. Allison, V. D., and Brown, W. A. Reinfection as a Cause of Complications and Relapses in Scarlet Fever Wards. *J. Hyg.*, 37:153–171, 1937.

7. Cruickshank, R., and Godber, G. E. The Aerial Spread of Streptococcal Infections. *Lancet*, i:741–746, 1939.

8. Wright, H. D., Shone, H. R., and Tucker, J. R. Cross-Infection in Diphtheria Wards. *J. Path. & Bact.*, 52:111–128, 1941.

9. Willits, R. E., and Hare, R. The Mechanism of Cross Infection of Wounds in Hospitals by Hemolytic Streptococci. *Canad. M. A. J.*, 45:479–488, 1941.

10. Hamburger, M., Jr., Puck, T. T., Hamburger, V. G., and Johnson, M. A. Studies on the Transmission of Hemolytic Streptococcus Infections. III. Hemolytic Streptococci in the Air, Floor Dust, and Bedclothing of Hospital Wards and Their Relation to Cross Infection. *J. Infect. Dis.*, 75:79–94, 1944.

11. Lurie, M. B. Experimental Epidemiology of Tuberculosis; Prevention of Natural Air-borne Contagion of Tuberculosis in Rabbits by Ultra-violet Irradiation. *J. Exper. Med.*, 79:559–572, 1944.

12. Trillat, A. Les aerosols microb'ens: applications (1). *Bull. Acad. de med.*, 3rd Series, 119:64–74, 1938.

13. Wells, W. F., Wells, M. W., and Wilder, T. S. The Environmental Control of Epidemic Contagion. I. An Epidemiologic Study of Radiant Disinfection of Air in Day Schools. *Am. J. Hyg.*, 35:97–121, 1942.

14. Hart, Deryl. The Importance of Air-borne Pathogenic Bacteria in the Operating Room: A Method of Control by Sterilization of the Air with Ultra-violet Radiation. *Aerobiology*, Amer. Ass. Adv. Sci., 1942, pp. 186–192.

15. Rosenstern, I. Observations on the Control of Respiratory Contagion in the Cradle. *Aerobiology*, Amer. Ass. Adv. Sci., 1942, pp. 242–250.

16. Robertson, O. H., Hamburger, M., Jr., Loosli, C. G., Puck, T. T., Lemon, H. M., and Wise, H. A Study of the Nature and Control of Air-borne Infection in Army Camps. *J.A.M.A.*, 126:993–999, 1944.

17. Wright, J., Cruickshank, R., and Gunn, W. Control of Dust-borne Streptococcal Infection in Measles Wards. *Brit. M. J.*, 1:611–614, 1944.

18. *Aerobiology*. Amer. Ass. Adv. Sci., Washington, D. C., 1942.

19. Symposium on Air-borne Infection, Soc. Am. Bact., May 3, 1944. *Am. J. M. Sc.*, 209:54–78, 152–180, 1945.

20. Andrews, C. H. Control of Air-borne Infections in Air-raid Shelters and Elsewhere. *Lancet*, ii:770–774, 1940.

21. Robertson, O. H. Air-borne Infection. *Science*, 97:495–502, 1943.

22. Cruickshank, Robert. Hospital Infection: A Historical Review. *Brit. M. Bull.*, 2:272–276, 1944.

23. Perkins, J. E. Evaluation of Methods to Control Air-borne Infections. *A.J.P.H.*, 35:891–897, 1945.

24. Coblentz, W. W. Ultra-violet Lamps for Disinfecting Purposes. Present Status. *J.A.M.A.*, 129: 1166–1167, 1945.

25. Hare, R., and Mackenzie, D. M. The Source and Transmission of Nasopharyngeal Infections Due to Certain Bacteria and Viruses. *Brit. M. J.*, i:865–870, 1946.

26. Allison, V. D., Bourdillon, R. B., Craig, W. S., Crooks, J., Crosbie, W., Gaisford, W., Gunn, W., Lightwood, R., Spence, J. C., Vining, C. W., and Watkins, A. G. Cross Infections in Children's Wards. *Brit. M. J.*, i:673–677, 1946.

27. Bourdillon, R. B., and Colebrook, L. Air Hygiene in Dressing-Rooms for Burns or Major Wounds. *Lancet*, i:561–565, 601–605, 1946.

28. Blackfan, K. D., and Yaglou, C. P. The Premature Infant; A Study of the Effects of Atmospheric Conditions on Growth and on Development. *Am. J. Dis. Child.*, 46:1175–1236, 1933.

29. Chapple, C. C. The Controlled Physical Environment for the Premature and Older Infant. *Aerobiology*, Amer. Ass. Adv. Sci., 1942, pp. 251–253.

30. Reyniers, J. A. The Control of Cross Infection by the Use of Mechanical Barriers. I. Principles and Instrumentation for Absolute and Partial Control with Fixed and Circulating Hosts. *Aerobiology*, Amer. Ass. Adv. Sci., 1942, pp. 254–259.

31. Robertson, E. C., Doyle, M. E., and Tisdall, F. F. Use of Ultra-violet Radiation in Reduction of Respiratory Cross Infections in a Children's Hospital. Final Report. *J.A.M.A.*, 121:908–914, 1943.

32. Horsfall, F. L., Jr., and Bauer, J. H. Individual Isolation of Infected Animals in a Single Room. *J. Bact.*, 40:569–580, 1940.

33. Reyniers, J. A. Introduction to the Problem of Isolation and Elimination of Contamination in Experimental Biology. *Micrurgy and Germfree Methods*. Chas. C. Thomas, Co., Springfield, Ill., 1941.

34. Yaglou, C. P., and Wilson, U. Disinfection of Air by Air-Conditioning Processes. *Aerobiology*, Amer. Ass. Adv. Sci., 1942, pp. 129–132.

35. A.M.A. Council on Physical Therapy. Acceptance of Ultra-violet Lamps for Disinfecting Purposes. *J.A.M.A.*, 118:298–299, 1942; 122:503–504, 1943.

36. Wells, W. F. Bactericidal Irradiation of Air. I. Physical Factors. *J. Franklin Inst.*, 229:347–372, 1940.

37. Rentschler, H. C., Nagy, R., and Mouromseff, G. Bactericidal Effect of Ultra-violet Radiation. *J. Bact.*, 41:745–774, 1941.

38. Buttolph, L. J. Physical Basis of Air Disinfection by Ultra-violet Energy. *Arch. Phys. Ther.*, 25:671–682, 1944.

39. Hollaender, Alexander. Effects of Ultra-violet Radiation. *Ann. Rev. Phys.*, 8:1–16, 1946.

40. Lidwell, O. M. Bactericidal Effects of the Partial Irradiation of a Room with Ultra-violet Light. *J. Hyg.*, 44:333–341, 1946.

41. Buttolph, L. J., and Haynes, H. Basic Germicidal Fixture Design and Use. *Magazine of Light*, 1946, No. 1.

42. Wells, W. F. Ray Length in Sanitary Ventilation by Bactericidal Irradiation of Air; Circulation in Sanitary Ventilation by Bactericidal Irradiation of Air. *J. Franklin Inst.*, 238:185–193, 1944; 240:379–396, 1945.

43. Overholt, R. H., and Betts, R. H. Comparative Report on Infection of Thoracoplasty Wounds; Experiences with Ultra-violet Irradiation of Operating Room Air. *J. Thoracic Surg.*, 9:520–529, 1940.

44. del Mundo, F., and McKhann, C. F. Effect of Ultra-violet Irradiation of Air on Incidence of Infections in an Infants' Hospital. *Am. J. Dis. Child.*, 61:213–225, 1941.

45. Brooks, G. L., Wilson, U., and Blackfan, K. D. Studies of Cross-Infection in the Infants' Hospital in Boston. *Aerobiology*, Amer. Ass. Adv. Sci., 1942, pp. 228–232.

46. Wheeler, S. M., and Jones, T. D. Studies on the Aerial Transmission of Hemolytic Streptococci in a Rheumatic Fever Hospital. *Aerobiology*, Amer. Ass. Adv. Sci., 1942, pp. 237–241.

47. Sommer, H. E., and Stokes, J., Jr. Studies on Air-borne Infection in a Hospital Ward; The Effect of Ultra-violet Light on Cross-Infection in an Infants' Ward. *J. Pediat.*, 21:569–576, 1942.

48. Wells, W. F. Air Disinfection in Day Schools. *A.J.P.H.*, 33:1436–1443, 1943.

49. Wells, M. W. Ventilation in the Spread of Chickenpox and Measles Within School Rooms. *J.A.M.A.*, 129:197–200, 1945.

50. Wheeler, S. M., Ingraham, H. S., Hollaender, A., Lill, N. D., Gershon-Cohen, J., and Brown, E. W. Ultra-Violet Light Control of Air-Borne Infections in a Naval Training Center. Preliminary Report. *A.J.P.H.*, 35:457–468, 1945.

51. Schneiter, R., Hollaender, A., Caminita, B. H., Kolb, R. W., Fraser, H. F., duBuy, H. G., Neal, P. A., and Rosenblum, H. B. Effectiveness of Ultraviolet Irradiation of Upper Air for the Control of Bacterial Air Contamination in Sleeping Quarters. Preliminary Report. *Am. J. Hyg.*, 40:136–153, 1944.

52. Masterman, A. T. Air Purification by Hypochlorous Acid Gas. *J. Hyg.*, 41:44–64, 1941.

53. Lovelock, J. E., Lidwell, O. M., and Raymond, W. F. Aerial Disinfection. *Nature*, 153:20–21, 1944.

54. Stone, J. D., and Burnet, F. M. The Action of Halogens on Influenza Virus with Special Reference to the Action of Iodine Vapour on Virus Mists. *Australian J. Exper. Biol. & M. Sc.*, 23:205–212, 1945.

55. Robertson, O. H. Sterilization of Air with Glycol Vapors. *Harvey Lectures*, 38:227–254, 1942–43.

56. Puck, T. T., Robertson, O. H., and Lemon, H. M. The Bactericidal Action of Propylene Glycol Vapor on Microörganisms Suspended in Air. II. The Influence of Various Factors on the Activity of the Vapor. *J. Exper. Med.*, 78:387–406, 1943.

57. Robertson, O. H. Disinfection of Air by Germicidal Vapors and Mists. *A.J.P.H.*, 36:390–391, 1946.

58. Hamburger, M., Jr., Hurst, V., Robertson, O. H., and Puck, T. T. The Effect of Triethylene Glycol Vapor on Air-borne Beta Hemolytic Streptococci in Hospital Wards. III. The Action of Glycol Vapors at Low Relative Humidities. *J. Infect. Dis.*, 77:177–180, 1945.

59. Puck, T. T., Wise, H., and Robertson, O. H. A Device for Automatically Controlling the Concentration of Glycol Vapors in the Air. *J. Exper. Med.*, 80:377–381, 1944.

60. Hamburger, M., Jr., Puck, T. T., and Robertson, O. H. The Effect of Triethylene Glycol Vapor on Air-borne Beta Hemolytic Streptococci in Hospital Wards. I. *J. Infect. Dis.*, 76:208–215, 1945.

61. Puck, T. T., Hamburger, M., Jr., Robertson, O. H., and Hurst, V. Effect of Triethylene Glycol Vapor on Air-borne Beta Hemolytic Streptococci in Hospital Wards. II. Combined Action of Glycol Vapor and Dust Control Measures. *J. Infect. Dis.*, 76:216–225, 1945.

62. Navy Medical Research Unit No. 1. Laboratory and Field Studies of Glycols and Floor-Oiling in the Control of Air-borne Bacteria. *U. S. Nav. M. Bull.*, 42:1288–1308, 1944.

63. Mather, J. M., and McClure, A. D. Experiences with the Use of Propylene Glycol as a Bactericidal Aerosol in an R.C.A.F. Barracks. *Canad. Pub. Health J.*, 36:181–187, 1945.

64. Bigg, E., Jennings, B. H., and Olson, F. C. W. Epidemiologic Observations on the Use of Glycol Vapors for Air Sterilization. *A.J.P.H.*, 35:788–798, 1945.

65. Harris, T. N., and Stokes, J., Jr. Summary of a 3-Year Study of the Clinical Applications of the Disinfection of Air by Glycol Vapors. *Am. J. M. Sc.*, 209:152–156, 1945.

66. Puck, T. T., and Cheney, A. L. The Dispersal and Control of Triethylene Glycol Vapor for Aerial Disinfection. *Am. Indust. Hyg. Ass. Qt.*, 7:10, 1946.

67. Thomas, J. C. Reduction of Dust-borne Bacteria by Oiling Floors. *Lancet*, ii:123–127, 1941.

68. Thomas, J. C., and van den Ende, M. The Reduction of Dust-borne Bacteria in the Air of Hospital Wards by Liquid Paraffin Treatment of Bedclothes. *Brit. M. J.*, i:953–958, 1941.

69. Harwood, F. C., Powney, J., and Edwards, C. W. A New Technique for the Application of Dust-Laying Oils to Hospital Bed-clothes. *Brit. M. J.*, i:615–616, 1944.

70. Bayley, C. H., anl Weatherburn, A. S. Chemical Aspects of the Application of Dust-laying Oils to Wool. *Canad. J. Research*, 23:402–412, 1945.

71. Puck, T. T., Robertson, O. H., Wise, H., Loosli, C. G., and Lemon, H. M. The Oil Treatment of Bedclothes for the Control of Dust-borne Infection. I. Principles Underlying the Development and Use of a Satisfactory Oil-in-Water Emulsion. *Am. J. Hyg.*, 43:91–104, 1946.

72. Loosli, C. G., Wise, H., Lemon, H. M., Puck, T. T., and Robertson, O. H. The Oil Treatment of Bedclothes for the Control of Dust-borne Infection. II. The Use of Triton Oil Emulsion (T-13) as a Routine Laundry Procedure. *Am. J. Hyg.*, 43:105–119, 1946.

73. Rountree, P. M. Treatment of Hospital Blankets with Oil Emulsions and Bactericidal Action of "Fixanol C" (Cetyl Pyridium Bromide). *Australian M. J.*, 1:539–544, 1946.

74. Commission on Acute Respiratory Diseases and Commission on Air-borne Infections. Control of Respiratory Tract Infections in Army Barracks by Oiling Floors and Bedding. *Am. J. Hyg.*, 43:120–144, 1946.

75. Andrewes, C. H., and Glover, R. E. Spread of Infection from the Respiratory Tract of the Ferret. I. Transmission of Influenza A Virus. *Brit. J. Exper. Path.*, 22:91–97, 1941.

76. Loosli, C. G., Robertson, O. H., and Puck, T. T. The Production of Experimental Influenza in Mice by Inhalation of Atmospheres Containing Influenza Virus Dispersed as Fine Droplets. *J. Infect. Dis.*, 72:142–153, 1943.

77. Henle, W., Sommer, H. E., and Stokes, J., Jr. Studies on Air-borne Infection in a Hospital Ward. II. Effects of Ultra-violet Irradiation and Propylene Glycol Vaporization upon the Prevention of Experimental Air-borne Infection of Mice by Droplet Nuclei. *J. Pediat.*, 21:577–590, 1942.

78. Dunkin, G. W., and Laidlaw, P. P. Studies in Dog Distemper. I. Dog Distemper in the Ferret. II. Experimental Distemper in the Dog. III. Nature of the Virus. *J. Comp. Path. & Ther.*, 39:201–230, 1926.

79. Faber, H. K., Silverberg, R. J., and Dong, L. Poliomyelitis in the Cynomolgus Monkey. III. Infection by Inhalation of Droplet Nuclei and the Nasopharyngeal Portal of Entry, with a Note on this Mode of Infection in Rhesus. *J. Exper. Med.*, 80:39–57, 1944.

80. Rake, G. Air-borne Transmission of Measles. Personal Communication.

81. Commission on Acute Respiratory Diseases. The Present Status of the Etiology of Primary Atypical Pneumonia. *Bull. New York Acad. Med.*, 21:235–262, 1945.

82. McCoy, G. W. Accidental Psittacosis Infection among the Personnel of the Hygienic Laboratory. *Pub. Health Rep.*, 45:843–845, 1930.

83. Hornibrook, J. W., and Nelson, K. R. Institutional Outbreak of Pneumonitis. I. Epidemiological and Clinical Studies. *Pub. Health Rep.*, 55:1936–1944, 1940.

84. Commission on Acute Respiratory Diseases. A Laboratory Outbreak of Q Fever Caused by the Balkan Grippe Strain of Rickettsia Burnetti. *Am. J. Hyg.*, 44:123–157, 1946.

85. Commission on Acute Respiratory Diseases. Acute Respiratory Disease Among New Recruits. *A.J.P.H.*, 36:439–450, 1946.

86. Thompson, S., and Glazebrook, A. J. Infectious Disease in a Semi-closed Community. *J. Hyg.*, 41:570–615, 1941.

87. Bureau of Medicine and Surgery, Navy Dept., Washington, D. C. The Prevention of Respiratory Tract Bacterial Infections by Sulfadiazine Prophylaxis in the U. S. Navy, 1943–44. *Nav. Med.*, 284.

88. Feasby, W. R., and Bynoe, E. T. Survey of Hemolytic Streptococcus Infections at Camp Borden, Ontario, 1943. I. Epidemiology. *War Med.*, 5: 207–215, 1944.

89. Holbrook, W. P. The Army Air Forces Rheumatic Fever Control Program. *J.A.M.A.*, 126:84–87, 1944.

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Merit System Administration in Official Health Agencies

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SINCE 1940 a system of personnel administration on a merit basis has been required of state health departments participating in the Public Health Service grant-in-aid programs. There had never been enough qualified health workers, but severe as the personnel shortages were in 1940, they were tremendously intensified during the war years. Physicians, nurses, sanitary engineers, dentists, and laboratory technicians were first to leave public health agencies, many of them to enter the armed forces. Closely following were clerical, administrative and other nonprofessional employees, who, if not taken into the armed services, were drawn by war jobs and high wages to swollen defense industries. Circumstances were not favorable for the successful operation of a system of personnel administration which admittedly complicated the hiring of workers as compared to direct employment by the state health authority. Yet with heavy odds against success, the merit system with its many advantages to both employer and employee proved itself under the most trying conditions.

The objectives of the merit system have long been recognized as of great significance in public health activities. Public health, perhaps more than any other government service, is dependent on trained and efficient personnel. Through the merit system, a health department can employ the best qualified and most efficient personnel available, and at the same time offer maximum employment security and opportunity.

In recognition of the trend in state and local governments toward a system of personnel administration based on merit principles, the Social Security Act, which provided for the expansion and improvement of health and welfare services, was amended in August, 1939, to require that state agencies receiving federal grants-in-aid operate under a merit system. A number of states had already adopted civil service laws by the time the merit system requirement was added to those parts of the Social Security Act which were administered by the Children's Bureau and the Social Security Board. The merit system requirement was not included in the part of the Act administered by the Public Health Service. Beginning in January, 1940, however, this requirement was included in the Surgeon General's regulations governing the administration of grants-in-aid.

The Public Health Service Act of 1944 which superseded Title VI of the Social Security Act, included grants for venereal disease control, tuberculosis control, and general health services. Regulations governing administration of grants under the new law required state

health department personnel administration on a merit basis as a condition for participation in these funds. The regulations provided that merit system rules should be submitted to the Public Health Service for review.

At first Public Health Service medical officers who had administrative experience were assigned to review and approve the rules. But both the amount and the technical nature of the work demonstrated the need for a staff trained in personnel methods. Consequently, a special unit was organized in the States Relations Division in July, 1941. The principal duties of the State Personnel Administration Unit, as the new organization came to be known, include reviewing state merit system rules and regulations and classification-compensation plans, advising Public Health Service district personnel on merit system policies and procedures, and consulting with state health departments on merit system administration.

Merit system plans are submitted to Public Health Service district offices for preliminary review. The district administrative analysts examine the organization and technical aspects of the plan. District medical, dental, nursing, and sanitary engineering consultants may also review the general organization of the merit system, but they direct their attention primarily to an analysis of class specifications in their respective fields and the compensation schedules for such classes.

A copy of the merit system plan is forwarded with district comments and recommendations to the State Personnel Administration Unit for review. A detailed analysis is prepared evaluating the plan in relation to the policies of the Public Health Service and accepted personnel standards. Amendments or revisions are suggested to the District Offices for whatever action is necessary to bring the plan into conformity with acceptable standards.

MERIT SYSTEM STANDARDS

The Public Health Service standards are applicable to all state employees rendering services in connection with programs for which the budgets utilize funds administered by the Public Health Service or state funds used for matching, and to persons having administrative responsibility for such programs unless specifically exempted. When the merit system is extended to local health departments, similar standards are applicable to local employees.

MERIT SYSTEM JURISDICTION

A considerable number of the initial rules governing the jurisdiction of the merit system did not meet standards. The exemption of confidential secretaries to state health officers, vital statistics workers, assistant or deputy state health officers, sanitarians, part-time clerks, non-professional laboratory workers, and unskilled laborers was chiefly responsible. One civil service law excluded from the classified service, "all superintendents, directors or other employees in the state government who of necessity must be licensed physicians, surgeons, or dentists."

Such exemptions could be removed by revising the rules in those states which operated under a joint or single agency merit system. The exemptions, while authorized under civil service laws, were not mandatory and health officers filled such positions from registers of eligibles. The solution to this problem set the pattern for meeting many of the conformity issues which arose over statutory provisions.

MERIT SYSTEM ORGANIZATION

Civil service commissions, the oldest form of merit system organization, have been established in 21 jurisdictions. Civil service organization varies from state to state but for the most part all are modeled after the United States Civil Service Commission. The standard

civil service law provides for three commissioners of whom not more than two may be members of the same political party. They are appointed by the state governor to serve for overlapping terms. In most cases the commissioners are reimbursed for incidental costs in connection with official meetings but receive no other compensation. The commission sets the policies, writes the regulations, and supervises the general administration of the merit system program. Specifically, it is responsible for the preparation of classification and compensation plans, a competitive examination system, appeal procedures, and rules and regulations governing the conditions of employment and all personnel actions. To aid in the discharge of these responsibilities, the commission selects a secretary, chief examiner, or personnel director to head a staff of personnel experts and clerical aides.

Joint merit system agencies have been established in 26 jurisdictions. In contrast to the civil service commissions, most of the joint agencies had no statutory support in the beginning, although there has been a trend toward such endorsement during the last two or three years. The joint agencies have usually been established by written agreement of the state agencies participating in grant-in-aid programs. The regulations are generally modeled after the *Draft Rule for a Merit System of Personnel Administration*, published by the Social Security Board in November, 1939.

Merit system councils usually have three members appointed by the participating agencies or by the governor on the recommendation of the agencies. They serve for overlapping terms of office and are paid only expenses incurred in attending official meetings. The qualifications of council members are more strictly defined than are those of civil service commissioners. The members must be "public spirited persons of recognized standing and of known interest in the improvement of public administration and in the impartial selection of efficient government personnel," according to the Draft Rule. They may not have held political office, nor have been officers in political organizations, nor have been employed by a participating agency during the year preceding appointment.

Civil service commissions are empowered by law to establish and administer merit systems. Most functions of the merit system councils, in contrast, are advisory. The rules and regulations are written and classification and compensation plans prepared by the agencies with technical advice from the councils. Like the civil service commissions, merit system councils hear appeals, or appoint impartial boards to hold hearings for them, select merit system supervisors, and promote public understanding of the merit system.

Four state health departments still operate their own merit systems. The Public Health Service gives only temporary approval to such single agency systems, pending organization of joint agencies or civil service commissions. Written justification is required from the state health officer establishing the necessity for a single agency. Four other state health departments originally established single agency merit systems. Three were superseded by joint agencies and one was placed under the jurisdiction of the state civil service commission.

The merit system supervisor is chiefly responsible for the administration of merit system procedures. The rules usually provide that he shall have training and experience in personnel management and be of known sympathy toward the merit principle in public service. Most merit system supervisors are selected from registers of eligibles established from the results of open competitive examinations. The major functions of the supervisors are: (1) to prepare, administer, and score examinations; (2)

to establish and maintain registers of eligibles; (3) to determine the availability of eligibles for appointment; (4) to certify eligibles for appointment; (5) to determine the adequacy of existing registers and schedule examinations in accordance therewith; and (6) to develop and administer such other procedures as the council or merit system rules may require.

The merit system rules did not conform to the standards used by the Public Health Service in reviewing methods of personnel administration in four civil service, seven joint agency, and four single agency jurisdictions. Under some civil service laws administrative responsibility is divided among the commissioners instead of being delegated to a personnel director. This lack of integration may have contributed to the difficulties of personnel administration experienced under war conditions. In these civil service states there are more health department employees without permanent status than in most merit system jurisdictions. Some civil service commissions have held no formal examinations for four or five years.

Personnel procedures must be flexible enough to meet changing economic, political, and social conditions. Civil service laws which include detailed procedures tend to become obsolete. It is therefore preferable to establish the merit principle in law and the procedures for its application in administrative rules and regulations; otherwise the rigidity imposed may be too restrictive for efficient and impartial administration.

Both joint and single agency merit systems are more flexible because administrative rules are comparatively easy to revise. They have been criticised principally on the high cost of administration per employee, restricted employment opportunities, and wage differentials in comparison with nonparticipating state agencies.

CLASSIFICATION PLANS

The classification plan including specifications for all classes of positions in the approved health department plan serves two purposes. It is designed "to lay the foundation for equitable treatment for public employees by the accurate definition, orderly arrangement, and fair evaluation of positions in the public service,"[1] and to provide appointing authorities with a systematic method of employing and evaluating personnel. Specifications for classes of positions are as necessary and important to an appointing authority as specifications for building materials are to a contractor. Unless the employing agent knows the exact nature of a job, with the qualifications necessary for competent performance, he will not be able to select the best available worker.

Health department classification plans are submitted to the Public Health Service for review. The titles, definitions, examples of work, and minimum qualifications of specifications included in the plans frequently need revision to bring them into conformity with acceptable standards. The specifications usually describe the technical operations satisfactorily but often do not include the degree of supervision under which the work will be performed, the responsibility for the work of others, and properly defined minimum qualifications.

Professional titles should be applied only to professional classes. For example, the title "bacteriologist" has been used for a laboratory position which did not require professional training. The Public Health Service recommends the use of a title such as "laboratory technician." Occasionally titles were applied which were unrelated to the duties described. In one state the truck driver and photographic equipment operator for the Bureau of Health Education was called "Assistant—Bureau of Health Education."

Class definitions should be short, gen-

eral statements of the principal duties and responsibilities of the class which distinguish it from other classes. They should be clear enough so that an accurate organization chart could be drawn without additional information. This technique is used by the State Personnel Administration Unit analysts in reviewing classification plans.

Concise statements which illustrate the duties and responsibilities typical of the class should be included in the examples of work. It is occasionally apparent from the class definition that certain important and typical examples have been omitted. The specification for an assistant director of a major division, for example, should include the duty of acting for the division director in his absence. The examples of work should indicate those performed under supervision and those on the initiative of the employee. Essentially incidental duties should not be included. Specifications should not be "written up" to make a job appear more difficult or more responsible than it actually is.

Minimum qualifications necessary for satisfactory job performance should specify the amount, recency, and kinds of both education and experience which the applicant must have. They should be appropriate to the duties, responsibilities, and examples of work in the specifications, for only then will the specifications provide an adequate basis for evaluating applications or for preparing examinations.

The amount of formal education required sometimes is unrelated to the duties and responsibilities of the class. Specifications for vital statistics, laboratory, and health education directors which required M.D. degrees have been submitted in which the duties and responsibilities failed to establish any necessity for a medical education. The substitution of experience for training sometimes serves to nullify educational standards. Specifications have been submitted for certain positions which required college graduation and yet permitted year for year substitution of experience for training up to a maximum of eight years.

COMPENSATION PLANS

A compensation plan must include all positions in the classification plan. Salary schedules for each class are reviewed in terms of: (1) the application of the principle of equal pay for equal work, (2) the adjustment of the salary range to the responsibility and difficulty of the work involved, (3) a realistic recognition of prevailing wage levels for similar positions in private industry and other public agencies in the locality, and (4) the economic law of supply and demand in relation to current labor markets. Each salary schedule should include maximum, minimum, and, unless prohibited by law, intervening rates of pay.

Almost all the rules establishing compensation plans were well written except those dealing with special wartime provisions. In March, 1943, most of the states relaxed standards to allow original appointments at a pay level higher than the minimum rate. The Public Health Service agreed to this procedure but required safeguards which provided: (1) appointments should be made above the minimum only for the duration of the war emergency; (2) such appointments should be made only at one of the regularly established intervening pay steps; (3) all eligibles higher on a register should be offered the job at the higher entrance rate; (4) no employees in the class should be below the higher rate when an appointment above the minimum is made, and (5) all appointments above the minimum should be approved by the merit system council or civil service commission following written request for such approval by the appointing authority.

The use of formal compensation plans

as instruments of personnel management was unfamiliar to many of the state health agencies which had no previous experience with a merit system of personnel administration. An analysis of the salary schedules for a typical health department showed that there were 85 classes with 48 different salary ranges: 32 applying to but one class, 7 applying to two, and 9 applying to more than two. In contrast there are fewer than fifty different salary ranges for the thousands of federal civil service classes. Comparatively few salary ranges are needed when compensation is determined on the basis of duties and responsibilities and in accordance with the principle of equal pay for equal work.

According to generally accepted standards, the salary range from minimum to maximum should be between 20 and 25 per cent of the minimum pay rate. In the compensation plan studied 29 ranges were more than 25 per cent, 13 less than 20 per cent, and only 6 fell within the generally accepted range.

A number of the salary scales with identical minimum pay rates extended to different maximum rates. For example, there were five salary scales starting at $175 which extended to maximum rates of $200, $215, $230, $235, and $250. When duties and responsibilities of classes are similar enough to justify identical entrance salaries, the only reason for varying maximum rates is to provide for long and efficient service in those classes which offer no promotional opportunities.

RECRUITMENT

The recruitment of qualified workers is an important function of the personnel agency. Most merit system organizations in the past have taken advantage of a favorable employers' market instead of conducting positive and aggressive recruiting. By January, 1942, the shortage of qualified personnel had reached a critical stage. Health departments sought to overcome the shortages by lowering employment standards. As an alternative certain changes in methods of recruitment and employment were suggested. Health departments were urged (1) to eliminate state and local residence requirements and discrimination on the basis of sex or marital status, (2) to increase salaries, (3) to provide for continuous receipt of applications and administration of examinations whenever enough applicants to assure adequate competition were available, (4) to administer joint examinations for two or more jurisdictions with common classes of positions, (5) to remove the 6 months' limitation on provisional appointments, and (6) to provide certification of more than the required number of names for each vacancy from those registers where availability of applicants changed rapidly.

At the same time it was suggested that if these recommendations did not solve recruiting problems, the states might establish war emergency classes involving a lesser degree of responsibility, closer supervision, and qualifications modified as to education and experience. Positions in war emergency classes should be filled from registers established according to the results of relatively simple examinations of general intelligence and aptitude for a particular job. Titles such as Acting Health Officer, Public Health Nursing Aide, or Engineering Assistant were suggested to distinguish them from regularly constituted classes meeting appropriate standards on minimum qualifications.

EXAMINATIONS

The process of selection by means of competitive tests is indispensable to a merit system of personnel administration. Objective written examinations are by far the most valid, practical, and inexpensive that can be used in the selection of qualified personnel. The

more usual practice among the states has been to give examinations consisting of subjective, essay-type written tests, a rating of training and experience, and an oral interview. Such examinations have been criticised because they fail actually to measure knowledge and ability, do not assure competition, and do not provide absolute impartiality in selection.

The American Public Health Association through its Merit System Unit has been engaged in a program to develop valid and reliable examinations for professional and technical health department positions since May, 1940. Recognizing the acute need for such examinations, both the Public Health Service and the Children's Bureau have given financial support to the program from its inception.

The Merit System Unit prepares examinations in eight major public health fields and nine specialties within those fields. The general categories include public health nursing, public health administration (health officers), public health laboratories, environmental sanitation, sanitary engineering, medical social work, vital statistics, and health education. The specialties within the general categories cover orthopedic nursing, nurse midwifery, industrial nursing, physiotherapy, x-ray technology, pathology, food and drug chemistry, entomology, and nutrition.

The examinations are prepared to fit the needs of the state and local health departments using them. Class specifications setting forth the duties and responsibilities as well as the minimum qualifications pertaining to a group of positions are submitted by the health departments requesting the preparation of examinations. These examinations are outlined according to the subject matter areas which must be covered to measure the knowledge and ability necessary for satisfactory job performance. An examination for the position of laboratory director, for example, may cover such areas as food and drug chemistry, bacteriology, public health laws and regulations, laboratory administration, etc., depending on the kinds of knowledge required in the specifications.

The questions are prepared by persons professionally or technically trained in public health and actually employed in health department positions. They are trained and supervised by subject matter consultants, who are highly qualified by both training and experience, and who have been selected for each field of public health in which examinations are prepared. The consultants also work in close liaison with the psychometrician of the Merit System Unit in editing, classifying, and determining the relative difficulty of every question. The questions are subsequently submitted to a board of expert reviewers for final check. The reviewers rule on the effectiveness of each question as a measuring device and on the level of difficulty assigned each item. On the basis of the comments and recommendations made by the reviewers, the questions are revised and a final draft is prepared by the consultant and the psychometrician. Consultants construct the basic outline of each examination and prepare the preliminary draft. The psychometrician is primarily responsible for the validity and reliability of the examinations. Since evaluation of test results is a necessary part of test construction, the agencies to which tests are supplied are urged to return original or duplicate answer sheets after the tests have been scored and candidates graded.

The American Public Health Association examinations have been very favorably received in all jurisdictions in which they have been used. Many of the states which originally ordered only public health nursing examinations have later asked for tests in the fields of sani-

tary engineering, public health laboratories, environmental sanitation, etc. The work has progressed so far that as of September 1, 1946, 195 A.P.H.A. examinations have been prepared for twenty-five state and three city health departments.

The Merit System Unit has recently expanded its program to include field consultation service. This service will be available to any state or local personnel agency or health department which requests it. The field consultant will be in a position to advise with such agencies, not only on problems directly related to examinations, but also on the other phases of public health personnel procedures.

ELIGIBLE LISTS

After examinations are graded a register of candidates eligible for appointment, arranged according to grade, is established for each class. The procedures followed in establishing and using registers were generally acceptable. Sometimes the method of removing the names of eligibles was too arbitrary. Names should be removed only when eligibles cannot be located, when any state job has been declined, or when three appointments have been refused.

In order to provide for reëmployment of persons who resign or who are separated without prejudice, reëmployment registers should be established or the rules should contain a formula for inserting the names of permanent employees on the original registers in approximately the same order as originally placed. A few of the states did not include such a formula nor satisfactory procedures for the removal of names from registers.

CERTIFICATION

Upon requisition from an appointing authority, the merit system supervisor certifies the highest ranking available persons on the register. Appointing authorities sometimes were allowed to requisition personnel according to special requirements not listed in the specifications. Unless selective certification is properly safeguarded it may favor applicants of lesser ability at the expense of the better qualified personnel higher on the register. Selective certification is a practical means for filling a position which requires both generalized knowledge and specialized qualifications included usually as an option in the class specification. For example, a health department may need a county public health nurse who can devote two-thirds of her time to general public health nursing and the remaining third to industrial nursing. By including in the requisition special and additional qualifications in the field of industrial nursing, it is neither necessary to establish a separate class for this position nor to hold a special examination for it.

The rules should specify the number to be certified for each vacancy in a class. To provide no restriction on the choice of an appointing authority would completely destroy the merit principle in the selection of personnel. The common practice has been to certify three names. During the war years many states permitted certification of the whole register of available eligibles in the interests of speeding up appointments.

APPOINTMENTS

Although state rules governing permanent appointment were generally satisfactory, those for probationary, provisional, temporary, emergency, and war emergency appointments were in some cases not in conformity with acceptable standards. Probationary periods of established duration were not always provided for in the rules. A statement that the probationary period had been satisfactorily completed was not always required prior to per-

manent appointment. Since the probation period is an essential part of the examination process, no employee should gain permanent status through default. Provisions for salary advancements, promotions, or transfers during the probation period were sometimes not in accordance with accepted standards.

Provisional, temporary, emergency, and war emergency appointments often were not clearly defined in the rules. Provisional appointments should be limited to a period of 6 months, or at most until registers of eligibles are established, whichever is sooner. (The Public Health Service waived this requirement for the duration of the war.) Emergency appointments should be made only when there is an immediate and urgent need for persons who cannot be obtained from appropriate registers. Further, they should be limited to a period no longer than 30 days and repeated appointments should not be made since emergency employees can be replaced with regular appointees if the emergency lasts more than 30 days. Temporary appointments should be made for short term jobs from registers of eligibles willing to accept them. War emergency appointments are no longer necessary.

SUPPLEMENTARY RULES AND REGULATIONS

In order to protect the merit principle, public employees are prohibited in most merit system rules from taking an active role in party management, election campaigns, and soliciting or contributing campaign funds. However, each employee retains the right to vote as he pleases and to express privately his opinions on all public issues.

A system of personnel administration should include regulations governing vacation, sick, military, educational, and other types of leave; periodic service ratings; and maintenance of adequate personnel records. Such regulations may not be included in the merit system rule. In many jurisdictions these activities are regulated by standard practices which are not in written form.

The rules on payroll certification generally conformed to accepted standards. However, several states provided for payroll audits as infrequently as once every 3 or 6 months, or as ambiguously as "from time to time." The merit system supervisor should certify that each person on the pay roll is legally employed and that the amounts paid are in accordance with the compensation plan. Pre-audits of all health department pay rolls at every pay period are preferred but post-audits are accepted if made within 2 weeks following payment.

The right of appeal from administrative decisions concerning examinations, classifications, and disciplinary actions is recognized in all the civil service or merit system rules. The rules provide that the civil service commission or merit system council shall hear such appeals or shall appoint an impartial board to hold hearings on its behalf. A definite time limit for filing appeals should be established to avoid so delaying proceedings as to work a hardship on the plaintiff and to result in loss of evidence or testimony. The conditions under which appeals can be brought should also be defined or limited, in order that the merit system council or civil service commission may not be overburdened.

Many state health departments need to develop regulations governing such internal procedures as appointments, transfers, separations, salary advancements and promotions, attendance and leave, individual employee records, and systems of periodic service ratings. In addition most of them must soon terminate such wartime procedures as the use of war emergency classes and war duration appointments. This will involve either the preparation of new

class specifications or the revision of existing specifications. Readjustments in salary schedules will have to be made and examination techniques revised. Perhaps the most difficult problems will be the replacement of war service appointees and the application of new laws and regulations concerning veteran preference.

CONCLUSION

During the war personnel shortages were so severe that regular merit system employment procedures were frequently suspended. Competitive examinations for health department positions could not be held because of an insufficient number of candidates. Nevertheless, records of 43 health departments, em-

EMPLOYMENT STATUS OF HEALTH DEPARTMENT PERSONNEL

JULY 1, 1945

State	Merit System Status				Provisional and Emergency				Unclassified and Exempt				
	Prof. Tech.	Sten. Cler.	Admin. Other	Total	Prof. Tech.	Sten. Cler.	Admin. Other	Total	Prof. Tech.	Sten. Cler.	Admin. Other	Total	Total
Alabama	40	107	28	175	36	7	2	45	..	..	2	2	222
Alaska	6	3	..	9	25	12	..	37	..	..	..	..	46
Arizona	57	34	15	106	11	10	..	21	10	..	3	13	140
Arkansas	..	107	1	108	134	60	43	237	1	..	..	1	346
California	132	156	131	419	99	127	43	269	..	..	1	1	689
Colorado	6	60	2	68	36	3	6	45	..	..	..	..	113
Connecticut	110	113	55	278	..	9	..	9	..	..	..	..	287
Delaware	29	10	9	48	11	6	1	18	8	7	5	20	86
Florida	38	76	110	224	357	194	25	576	28	12	13	53	853
Georgia	78	110	7	195	34	28	6	68	1	..	28	29	292
Hawaii	181	81	70	332	31	9	2	42	2	..	..	2	376
Idaho	62	30	8	100	11	2	4	17	..	..	..	..	117
Indiana	144	70	3	217	5	9	..	14	..	..	..	..	231
Illinois	163	207	4	374	181	187	..	368	..	..	1	1	743
Iowa	..	55	2	57	..	..	2	2	125	6	10	141	200
Kansas	141	73	15	229	31	20	6	57	39	..	1	40	326
Kentucky	283	337	242	862	7	17	37	61	55	..	..	55	978
Louisiana	228	210	60	498	93	85	174	352	198	1	8	207	1,057
Maine	84	74	15	173	..	..	..	..	..	..	1	1	174
Maryland	195	109	10	314	22	32	2	56	..	..	..	..	370
Massachusetts	161	126	43	330	74	98	9	181	..	..	..	..	511
Michigan	115	108	65	288	82	66	75	223	1	..	..	1	512
Minnesota	80	109	35	224	27	50	19	96	1	..	2	3	323
Mississippi	..	..	..	..	..	..	..	..	..	..	..	..	..
Missouri	..	..	..	..	..	..	..	..	..	..	..	..	..
Montana	..	18	..	18	47	5	2	54	..	..	..	..	72
Nebraska	57	54	8	119	12	9	..	21	15	..	..	15	155
Nevada	16	8	4	28	2	..	..	2	..	1	2	3	33
New Hampshire	33	32	12	77	5	1	..	6	..	..	1	1	84
New Jersey	198	107	22	327	41	43	5	89	4	1	6	11	427
New Mexico	48	66	14	128	19	18	4	41	24	..	19	43	212
New York	275	367	25	667	60	87	1	148	43	..	..	43	858
N. Carolina	7	242	..	249	601	58	98	757	15	..	6	21	1,027
N. Dakota	..	..	..	..	..	..	..	..	..	..	..	..	..
Ohio	19	67	5	91	268	99	15	382	2	..	1	3	476
Oklahoma	..	..	..	..	..	..	..	..	..	..	..	..	..
Oregon	24	22	3	49	11	9	4	24	3	..	..	3	76
Pennsylvania	200	146	103	449	99	100	82	281	73	229	..	302	1,032
Puerto Rico	788	443	553	1,784	735	421	1,737	2,893	3	1	87	91	4,768
Rhode Island	..	..	..	..	..	..	..	..	..	..	..	..	..
South Carolina	..	..	..	..	..	..	..	..	..	..	..	..	..
South Dakota	35	26	2	63	6	3	2	11	1	..	..	1	75
Tennessee	..	..	..	..	..	..	..	..	..	..	..	..	..
Texas	107	85	17	209	625	347	29	1,001	81	..	441	522	1,732
Utah	..	..	..	..	..	..	..	..	..	..	..	..	..
Vermont	28	19	1	48	26	3	..	29	2	..	..	2	79
Virginia	208	156	7	371	86	30	1	117	..	..	..	..	488
Washington	42	66	10	118	12	28	3	43	4	..	2	6	167
West Virginia	152	89	7	248	66	15	1	82	13	4	2	19	349
Wisconsin	107	135	55	297	..	..	1	1	..	..	8	8	306
Wyoming	10	13	1	24	14	4	1	19	..	..	..	..	43
Total	4,687	4,526	1,779	10,992	4,042	2,311	2,442	8,795	753	262	649	1,664	21,451

ploying 21,451 workers, show that about half, or 10,992, have merit status; 8,795 hold provisional, emergency, or war emergency appointments established by merit system rules, and only 1,664 were in exempt classes. These figures are derived from reports on the status of personnel in state and territorial health departments on July 1, 1945. Detailed figures are shown in the accompanying table.

The number of health department employees with merit status is evidence that, in spite of wartime difficulties, great progress has been made in placing personnel administration on a merit basis. During the war the Public Health Service was unable to provide state health agencies with the services they requested. The State Personnel Administration Unit could seldom assist, for example, in preparing class specifications, developing compensation plans, establishing personnel record systems, rating scales, and other instruments of personnel management. The Public Health Service now plans not only to provide the assistance requested by health departments, but also, through periodic reviews of personnel activities, to determine how best to serve in strengthening their merit systems.

REFERENCE

1. White, Leonard D. *Introduction to the Study of Public Administration*. Macmillan, 1942, p. 279.

Proposed Report on the Educational Qualifications of Public Health Engineers*†

THE term "public health engineer" as used in this report refers to the sanitary engineer, employed by a public health agency, who is trained in methods for the control and proper use of factors of the environment to the end that the public health is improved or protected.

The term "public health engineering" as used in this report includes the public health aspects of all types of environmental conditions whose control is based upon engineering principles. All procedures of public health agencies that depend upon engineering materials or methods for environmental conditions should be considered as public health engineering activities.

I. General Scope of Engineers in Public Health Programs

Sanitary engineers with basic training in civil engineering early developed competence in water supply, sewage, and waste disposal. In order adequately to meet the problems of design and operation of such sanitary work, a knowledge of the chemistry and biology of these services became essential. This enlarged their sphere of interest, and in the course of time caused them to take an active part in all those problems concerned with the promotion and preservation of the public health to which engineers are able to contribute a significant solution.

The practice of public health engineering includes not only the activities of engineers in official health agencies in their investigations, review of plans, and supervision of the operation of sanitary works, but also the functions of engineers in private practice or in government organizations other than health agencies in the design, operation, and control of sanitary works. In order to be qualified to review plans and supervise operations, therefore, the public health engineer must be trained and qualified not only to advise on problems of sanitation, but also to design and construct sanitary works.

Public health activities may be divided into two distinct but closely interrelated fields, one having to do with the human element and the other with the environment. The first is normally the field of the physician and the nurse, while the second is that of the engineer and other sanitation personnel. There is no distinct separation between these activities, but there is a middle ground in which the activities of the physician and engineer merge. Therefore, successful operation of a public health program demands administrative participation and careful planning by both physician and engineer.

A complete public health program must include adequate provision for

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* This report was presented by the Committee on Professional Education to the Governing Council on November 13, 1946, and was approved in principle by the Governing Council with the recommendation that the report be published in the January *Journal* and, if no serious criticisms are received from members and Fellows of the Association, the report becomes final and adopted as an official report of the Association as of March 1, 1947.

This report, like all other statements of the committee on professional and technical qualifications in public health, is subject to periodic revision in order that it may be kept abreast of the best thought.

† This proposed report is a revision of the report on the Educational Qualifications of Public Health Engineers approved by the Governing Council on October 5, 1937.

both the human element and the environment. The health officer aided by an adequate and competent engineering staff can assure the needed administrative assistance and technical advice necessary to provide a complete program. Not only is the public health engineer responsible for the engineering aspects of strictly public health phases of community life but he must also participate and assist in planning, designing, building, and operating of other engineering facilities, which are the primary responsibility of other branches of government, in order to promote and protect public health.

It is evident then that the department of health, through its engineering division or bureau, does not operate as an isolated unit, but that it contributes to the maintenance of an orderly and properly functioning society in coöperation with many other departments of government having engineering functions. A broad concept of the social, political, and economic forces that operate in the community is essential to the recognition and development of such a program.

There is a considerable expansion of health programs taking place both at state and local levels as well as in industry. The number of engineers in public health work must be increased enormously if the needs are to be met. Expansion of related programs of public works construction, slum clearance, and urban redevelopment, industrial activity and stream pollution control will require additional numbers of similarly trained men. Conservative estimates place the number of public health engineers needed, in addition to those on the job now, at more than 1,000 to meet only the minimum needs for local health services. It is recommended that a population unit of 50,000 or more requires the services of at least one public health engineer plus an adequate number of assistants. Only by the establishment of high professional standards, with a corresponding increase in salaries, can the required number of competent persons be obtained and their services retained.

II. The Activities and Functions of Engineers in Public Health

One of the major activities of public health engineers is that of supervising the development and operation of sanitary works in order to control properly those aspects that may affect the public health. The engineering procedures involved and the place of the public health engineer in the supervision, development and operation of such works are:

a. Investigating and planning
b. Designing and preparing specifications
c. Construction
d. Maintenance and operation

Except as discussed later, the design and construction of sanitary works is commonly assigned to engineers in private or consulting practice, public engineering organizations developed for this specific purpose, such as the New York Board of Water Supply or the Chicago Sanitary District, and the personnel of existing governmental agencies, such as the Department of Public Works. The maintenance and operation of the structures is then generally taken over by existing or specially organized departments or appropriate political subdivisions.

The proper development and operation of sanitary works are matters of public concern in general and of public health in particular. Since profit or other economic motives are often associated with the development and operation of sanitary works, and since there may be a conflict of interest between different regions, communities, or industries and their sanitary needs, supervision and regulation is placed in governmental agencies including the

engineering subdivision of health departments. Briefly, those organizations are entrusted with the following activities:

e. Investigation of sanitary needs, and stimulation to provide necessary remedial measures
f. Advice relative to and approval of proposed works and approval of completed works
g. Supervision of operation and maintenance of existing works
h. Development and enforcement of rules and regulations

Procedures (e) to (h) are complementary to the fundamental engineering procedures involved in the development and operation of sanitary works procedures (a) to (d) and have been interpolated for the purpose of establishing a reasonable system of checks and balances in the interest of health and welfare. Competently to fulfil procedures (e) to (h) the responsible engineer must possess the fundamental qualifications required by procedures (a) to (d) as well as additional qualifications related to the public health and welfare aspects of these activities. In the federal government and in some states and their subdivisions, the design, construction, and operation of sanitary works connected with governmental institutions and the design, construction, and operation of mosquito-control and rodent-control projects are assigned to the engineering organizations of their respective health agencies.

Public health engineering includes not only supervision of the development and operation of sanitary works as outlined above, but also participation in the planning, design, construction, operation, and maintenance of other physical elements that contribute to the support of community life so that the protection and promotion of public health can be assured. Some of these other physical elements are: dwellings; structures, and equipment used to produce, process, and distribute the food supply; environmental conditions which support disease-bearing insects and rodent life, and the growth of noxious weeds; industrial structures and equipment with especial reference to the effect on the air breathed in such industries as well as the other physical hazards therein.

The following are listed as public health engineering activities, as now carried on:

1. Water supply and treatment; design and installation of sewers, sewage and industrial waste disposal; stream pollution control; bathing place control; and mosquito control measures.
2. Municipal and rural waste disposal and insect, rodent, vermin and weed control.
3. Food sanitation, including the production and pasteurization of milk and the manufacture of ice cream and other dairy products; the sanitary production of shellfish, and the production, storage, and distribution of meat, poultry, pastry, bakery goods, fish, and other foods as well as the sanitation of eating and drinking establishments.
4. The sanitation of schools, camps, public places, swimming pools, and recreational areas.
5. Programs to promote healthful housing for all people.
6. Industrial hygiene and sanitation. This involves those special engineering problems incident to industrial processes and includes the many features of environmental sanitation. Industrial sanitation should, therefore, be under the direction of a public health engineer.
7. In cities particularly, proper city planning, heating, lighting, and ventilation of buildings, plumbing, aerial pollution, and noise. These problems are largely engineering in character. Any program to influence them for the benefit of public health must be based on engineering investigations and solutions.

III. The Educational Background of Public Health Engineers

Public health engineers must possess two distinct and essential educational qualifications: (a) basic education and training in engineering, and (b) specialized knowledge and ability in sanitary science, sanitary engineering, and public health.

a. *Basic Engineering Education*

The public health engineer should be a graduate of a full four year or longer course

leading to a bachelor's or higher degree * at a college or university of recognized standing † with the major study and the basis of the degree in a course such as sanitary or public health engineering, or the sanitary option in civil engineering. In the case of public health engineers entering industrial sanitation, mechanical or chemical engineering is preferred.

In so far as the academic requirements are concerned, the basic education of the engineer should make him eligible for admission to examination for licensure to practise professional engineering in the state of his employment.

b. *Specialized Education and Training*

The varied functions of a public health engineer necessitate additional education beyond that ordinarily acquired by basic training in engineering. Successful performance in his field requires: (a) an intimate and working knowledge of the physical, chemical, biological, and engineering sciences upon which the sanitary control of the environment is based, and (b) the ability to identify, evaluate, and explain in terms of their public health implications those environmental factors that will promote and protect health or those that are capable of injuring health.

This specialized knowledge lies mainly in three fields: (1) sanitary science, (2) sanitary engineering, and (3) public health. The elements of these are indicated in the outline of graduate education, Section IV. In the rigorous undergraduate engineering curriculum the amount of time that can be allotted to specialized study in these three fields without impairing the basic engineering education is quite limited—generally not more than about 15 per cent of the total scheduled instruction. Adequate preparation of an engineer for a career in public health requires one or more years of specialized study as outlined in Section IV and a period of supervised experience in addition to the minimum of four years required for graduation in engineering. However, to enable the graduate in engineering to begin work and gain experience and to prepare him for graduate study it is desirable that his undergraduate program should include as much instruction as possible in the fundamental sanitary sciences—especially bacteriology and chemistry—and in the principles of sanitary engineering and public health.

The program of study, preparing for a career in public health engineering, falls into three categories:

1. Sanitary Options in Four-year Undergraduate Curricula of Civil Engineering—In 1944 twenty-three such curricula remained accredited by the Engineers' Council for Professional Development.* The accredited options, for which information is available, allotted from 8 to 20 per cent of the period of study to the subjects of primary importance to sanitary engineers; namely, chemistry (beyond freshman chemistry), biology (including bacteriology), hydrology or hydraulic engineering, sanitary engineering, and public health. There are no sanitary options in chemical and mechanical engineering, those most closely allied to industrial hygiene.

2. Four year Undergraduate Curricula in Sanitary Engineering—In 1944 three such curricula remained accredited by the Engineers' Council for Professional Development. One of these three accredited curricula had been discontinued by its institution. Registration for programs of this type has long been very low and the outlook for a continuation of these programs is uncertain. The accredited curricula allotted from 13 to 25 per cent of the period of study to the subjects of primary importance to sanitary engineers (see "1" above). None of these curricula is oriented particularly toward the practice of industrial hygiene.

3. Graduate Curricula in Sanitary Engineering and Public Health—These include two general types of programs, those in which the major study and graduate degree are in sanitary engineering and those in which the major study and degree are in public health. Such programs provide opportunities for engineers with little or no training in public health engineering to develop a sufficient background to

* In making this recommendation the American Public Health Association expressly recognizes that there are many persons now actively engaged in public health work who are lacking in formal education but whose training or experience should be accepted as fully equivalent to the basic engineering education defined above. The basis of substitution shall be at least two years of appropriate training or experience equivalent to one year of formal engineering education. Such persons who have sufficient equivalent training or experience to substitute for the accredited engineering education they lack shall be considered professional engineers for the purpose of this report.

† A college or university of recognized standing is defined as one which is accredited by a national or regional accrediting association such as the Association of American Universities, or the New England, Middle State, North Central, Southern, or Northwest Association of Secondary or Higher Schools, or one whose engineering curricula have been accredited by the Engineers' Council for Professional Development.

* At the present time the Engineers' Council for Professional Development is the only accrediting agency of national scope which examines and accredits curricula in sanitary engineering and sanitary option of civil engineering.

begin work in public health. They also provide advanced graduate instruction for those who have completed undergraduate programs in sanitary options or sanitary engineering. Either of the two types of programs should be accepted as satisfactory for these purposes if they include adequate instruction in each of the three essential fields of knowledge previously outlined and enough choice of electives to meet the needs of students with varying backgrounds of previous training and experience. As yet there are no accrediting agencies that examine and accredit graduate curricula in sanitary or public health engineering.

As a minimum for initial employment as a public health engineer the graduate engineer should have completed an approved undergraduate sanitary option or sanitary engineering program; or, in addition to graduation in engineering, should have received an equivalent amount and similar character of approved postgraduate education or in-service training. Such postgraduate training can best be obtained through study in an approved educational institution but may be provided by postgraduate self-education or in-service training during a period of probationary employment under competent public health engineering supervision. A young engineer, at first occupied in a subordinate position, should work under close public health engineering supervision until he has prepared himself by experience or graduate study for positions of major responsibility. Graduate education affords the greatest assurance that the public health engineer will become both broadly competent and well grounded in the subjects that are fundamental to sanitary progress.

IV. Graduate Education

The true value of the public health engineer rests squarely on his ability within his professional field.

Because of the wide difference in the technical knowledge required in the various fields of public health engineering activity, opportunity should be afforded for some specialization. Depending upon the student's preparation, a suitable program of graduate study should be developed from the following elements of sanitary science, engineering technology, and public health practice.

a. Sanitary sciences including (but not limited to): bacteriology, chemistry, parasitology, planktology, entomology and human physiology as related to problems of public health engineering interest.

b. The principles and practices of engineering analysis, design and operation as applied to works and projects for the protection and promotion of the public health including (but not limited to) the following: water supply and purification, sewerage and sewage treatment, the collection and disposal of municipal, rural and industrial wastes; projects for the control of insect, rodent, and other vectors of disease transmission; the engineering and administrative phases of food and milk sanitation; the sanitation of buildings including ventilation, air conditioning, heating, plumbing, and illumination; housing; industrial sanitation with particular reference to those industrial health hazards the correction of which is largely an engineering problem.

c. The principles of public health including (but not limited to) the following: public health administration sufficient to give the student a clear understanding of the purposes, functions, and legal bases of the general public health program and the responsibilities of the engineer within that program; epidemiology and communicable disease control; statistical methods in sanitary engineering and public health practice.

Emphasis should be placed upon the fundamental scientific engineering and public health content of the subject matter presented—the student being supervised and guided in his development of possible techniques and practices based upon sound fundamental concepts.

The type of institution best fitted to give the instruction is a university which includes both a faculty of engineering and a faculty of public health, and in which close coöperation is maintained between the members of the two faculties who are responsible for instruction in public health engineering.

V. Classification of Public Health Engineers

In any organization having a staff of engineers, classification is necessary. In general such classification automatically occurs and it is a general requirement under usual civil service procedures. However, lack of uni-

formity in classification exists among the various health agencies employing engineers. The following classification with educational and experience requirements is suggested. It is based on the requirements of several states, federal Civil Service, the United States Public Health Service for Commissioned Officers, and the classification of engineers as adopted by the American Society of Civil Engineers.

The education, training, and experience stated in the classification should be regarded as the minimum that is normally acceptable. It is not intended that the qualifications should be retroactive but rather that they should apply to the selection of new employees and serve as a guide in the future advancement of sanitary engineering personnel.

Because of the present limited supply of qualified public health engineers, it is proposed that in any grade, three years of acceptable experience in public health engineering under competent supervision may be substituted for the one year of graduate study set forth in this report. However, the advantages of specialized graduate study in the sound and early development of public health engineers for positions of responsibility are recognized. Therefore, as soon as practicable, at least one academic year of approved graduate study as described in Section IV should be made a basic requirement for appointment or promotion to Grade III or to higher grades in this classification.

Education and Experience

The minimum educational requirequirements for all grades are: (1) graduation in engineering from a college or university of recognized standing; (2) satisfaction of academic requirements for admission to examination for licensure to practise engineering in the particular state; and (3) completion of an approved undergraduate sanitary option or sanitary engineering program or, lacking such training, an equivalent amount of postgraduate orientation. Such postgraduate training may consist of at least three months of approved university guidance; or a like period of well rounded and systematic in-service orientation and supervised practice. Tentative or provisional appointments may be authorized for graduate engineers without public health engineering training or experience to allow a sufficient period for graduate study or in-service training to qualify them for permanent classification.

With the exception of Grades I and II, specialized education should include, in addition to the minimum educational requirements, at least one academic year of graduate study in a recognized institution of learning leading to a graduate degree and with major study in sanitary science, sanitary engineering, and public health. In lieu of a year of graduate study, three years of suitable practice under the supervision of a competent public health engineer in public health work may be substituted *provided* that, (1) such substitutions of experience for graduate study normally should not be allowed for grades higher than Grade III, and (2) a sanitary engineer who later completes a year or more of graduate study should receive equivalent credit in his classification for the years of experience previously substituted in lieu of graduate study.

Attainment of the doctor's degree in sanitary engineering or in public health if based on special studies in the field of public health engineering in a school of recognized standing should be considered as the equivalent of and may be substituted for a part of the experience requirements of the classification below as follows: Grade III—one year; Grade IV —two years; and Grade V—three years.

Classification

The qualifications for each grade

should conform with the educational requirements or equivalent experience as described above in addition to the experience indicated below:

Grade I—No experience required.

Grade II—At least one year of suitable experience in sanitary engineering work under competent supervision.

Grade III—At least two years of suitable experience in sanitary engineering work in a grade comparable to Grade II, of which at least one year of the total experience must be in public health work. (Total 3 years sanitary engineering, 1 of them in a public health agency.)

Grade IV—At least two years of sanitary engineering experience in a grade comparable to Grade III, of which at least two years of the total experience must be in a responsible position in public health work. (Total 5 years sanitary engineering, 3 of them in public health agency.)

Grade V—At least five years of engineering experience in a grade comparable to Grade IV, of which at least five years of the total experience must be in a responsible position in public health work. (Total 10 years sanitary engineering, 5 of them in public health agency.)

Personal Qualities

To attain success in full measure, public health engineers should not only be competent in their field of learning and practice but should also be able to establish and maintain favorable relations in their own department and with the public on the basis of creative ability, far-sighted leadership, sound engineering judgment, common sense, honesty, and industry.

VI. Qualifications for Directing Personnel

Director

The qualifications for the position of Director of a Division of Sanitation (however designated) in a health department will vary depending upon the size of the division and the responsibilities of the position. He should have the educational requirements set forth for all public health engineers, a general knowledge of all phases of public health engineering, and an intimate knowledge of those problems which are of importance in the particular area or community in which he is to be employed. He should have the ability to organize and direct the work of his division.

In small health units where only one employee is engaged in environmental sanitation activities, this employee should meet the qualifications of one of the public health engineering grades unless he is working under the technical direction of a public health engineer of the staff of an overlying governmental health agency.

Assistant Director

An Assistant Director should have the qualifications for the next grade below that in which the director is classified.

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Achievements of UNRRA as an International Health Organization

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SO astounding is the magnitude of the overall performance of the United Nations Relief and Rehabilitation Administration, with its mammoth shipments to war-ravaged countries of food, clothing, agricultural seeds, implements, and other essential supplies, that the strictly health functions are dwarfed by comparison. Nevertheless, in order to meet its responsibilities during the emergency, the Health Division of UNRRA had to expand until it became by far the largest international health organization which the world has yet seen. This is true even if the coöperating Division of Medical and Sanitation Supplies * is not included.

The extent of UNRRA's operations was dramatically illustrated by a comment of Mr. Noel-Baker [1] at the recent session of the Council of UNRRA at Geneva:

> During the war I was a Minister under Mr. Churchill in our Department of War Transport, and month by month I used to watch the convoys which brought to Britain the food and the raw materials with which we fought the war. The scale of UNRRA's supply operations each month is now equal to the total import programme of the United Kingdom in those historic times.

For UNRRA's entire period of active operations lasting about three years, the total budget amounts to approximately 3 billion 7 hundred million dollars. When the Administration closes its books next year it is estimated that its health work will account for close to 168 million dollars. The largest portion of this amount, or about 146 million dollars, will have been spent for procurement and shipment of medical and sanitation supplies. By June 30, 1946, 105,000 tons of sera and vaccines, chemicals and drugs, hospital equipment, and laboratory supplies had already been dispatched, and about an equal amount was still to go forward. The estimate of 22 million dollars for the health activities exclusive of expenditures for supplies was reached by prorating the total estimated operational and administrative expenditures up to December 31, 1946, according to the numbers of international employees engaged in health and the number in the total functions and thus determining the share belonging to health.

The maximum annual expenditure of UNRRA for health is that for 1946, estimated as about 14 million dollars for the activities of the Health Division plus 68 million dollars for the procurement and shipment of medical and sanitation supplies. This gives an estimated sum of 82 million dollars for health, medicine, and sanitation during that year. The annual sum for health activities was substantially increased by allotments by certain governments from the proceeds of sales of part of their

* The Division of Medical and Sanitation Supplies, responsible for procurement and distribution, is in the Bureau of Supply, while the Health Division, under the Director of Health, is in the Bureau of Services.

UNRRA supplies. Such sales to persons who could afford to buy were permitted on condition that the net proceeds in local currency should be turned back into relief and rehabilitation activities.

The size of UNRRA's effort in the field of international health can best be appreciated if we mention for comparison a few other important annual health budgets. The League of Nations Health Organization had the equivalent of U. S. $414,078 in its largest annual budget, the one for 1931, and did valuable pioneering work with these resources. The Interim Commission of the World Health Organization is reported to have a budget of $300,000 for the remainder of 1946 and $1,000,000 for 1947. The International Health Division of the Rockefeller Foundation for the calendar year 1945 had a budget of $2,200,000 for its regular program and expended also $157,016 from the special war funds of the Rockefeller Foundation Health Commission. The United States Public Health Service has a total budget for the fiscal year ending June 30, 1947, of $88,423,516, including $290,700 for its new Office of International Health Relations. All the 48 states of the United States of America together appropriated about 50 million dollars for health for the year ending June 30, 1946, and the corresponding figure for the local governments is about 70 million. These comparisons bring out the magnitude of UNRRA's total expenditures for health. They had to be large because the requirements for relief health services and

TABLE 1

International and Local Professional Health Personnel by Profession and Place of Duty June 30, 1946

	International Employees						
Place of Duty[1]	*Physicians*	*Dentists*	*Nurses*	*Sanitary Engineers*	*Other Professions*	*Total*	*Local Employees*
Headquarters—Washington	7	0	2	1	4	14	0
European Regional Office	10	2	2	0	1	15	0
Albania	1	0	0	0	0	1	0
Austria	36	1	28	0	0	65[2]	0
Belgium	1	0	1	0	0	2	3
Byelorussia	1	0	0	0	0	1	0
China	90	18	32	14	20	174[3]	11
Czechoslovakia	1	0	0	0	0	1	1
Dodecanese	1	0	5	0	0	6	0
Ethiopia	1	0	2	1	0	4	0
France	2	0	0	0	0	2	2
Germany	280	7	348	4	1	640[2]	43[4]
Greece	27	1	52	8	26	114	79[5]
Hungary	0	0	0	0	0	0	1
Italy	18	1	27	2	11	59[2]	79[6]
Middle East	4	0	9	2	2	17[2]	1
Poland	4	0	2	2	1	9	4
Ukraine	1	0	0	0	0	1	0
Yugoslavia	4	0	2	2	1	9	5
	489	30	512	36	67	1,134[2]	229
							1,134
Grand Total							1,363

[1] There was no professional health personnel in Finland, Korea, or the Philippines, where activity was exclusively on supplies.

[2] Occupied exclusively with Displaced Persons: Austria, 55, Germany 640, Italy 5, Middle East 17. Total 717.

[3] Including "program personnel" for clinical work and teaching, 113 (59 Physicians, 17 Dentists, 20 Nurses, 5 Sanitary Engineers, 12 Other).

[4] Including 34 Physicians and 9 Nurses.

[5] Including 20 Physicians, 19 Nurses, 24 Sanitary Engineers, and 16 Other.

[6] Including 25 Physicians, 10 Dentists, 44 Nurses.

TABLE 2

International Professional Health Personnel by Profession and Nationality
June 30, 1946

Nationality	*Physicians*	*Dentists*	*Nurses*	*Sanitary Engineers*	*Other Professions*	*Total*
Australia	7	0	12	0	0	19
Austria	2	0	1	0	0	3
Belgium	28	0	76	0	0	104
Bolivia	1	0	0	0	0	1
Brazil	9	0	0	1	0	10
Canada	8	1	28	0	2	39
China	1	0	0	0	0	1
Colombia	7	0	0	0	0	7
Cuba	13	1	0	0	0	14
Czechoslovakia	20	1	1	0	1	23
Denmark	9	0	43	0	1	53
Dominican Republic	1	0	0	1	0	2
Eire	18	0	21	0	0	39
El Salvador	2	0	0	0	0	2
Equador	1	0	0	0	0	1
France	51	0	50	0	0	101
Greece	6	0	0	1	0	7
Hawaii	1	0	0	1	0	2
Holland	13	0	68	0	1	82
Honduras	0	1	0	0	0	1
Iran	3	0	0	0	0	3
Italy	0	0	13	0	0	13
Luxembourg	3	0	1	0	0	4
Mexico	12	0	0	2	0	14
New Zealand	1	0	6	0	0	7
Norway	2	0	5	0	0	7
Palestine	3	0	0	0	0	3
Poland	31	0	2	0	1	34
South Africa	2	0	1	0	1	4
Stateless	10	0	3	0	0	13
Switzerland	8	0	4	0	0	12
U. K.	100	13	61	5	27	206
U. S.	90	13	106	25	29	263
USSR	1	0	0	0	0	1
Venezuela	3	0	0	0	0	3
Yugoslavia	3	0	0	0	1	4
Unknown	19	0	10	0	3	32
Totals	489	30	512	36	67	1,134

supplies were extreme at this time of unprecedented emergency.

THE STAFF OF THE HEALTH DIVISION

The professional staff of the Health Division at Headquarters in Washington, at the European Regional Office in London, in the China Office, in the displaced persons operations in Germany, and in the Missions to the several assisted countries, is shown by numbers, professions, and nationality in Tables 1 and 2, as of June 30, 1946. At that time recruitment of new personnel ceased and numbers were already beginning to decrease.

The recruitment of a large professional staff during the war was extremely difficult. In Great Britain and the United States, military needs had priority. Many other areas which were drawn on later were at first inaccessible. The Surgeon General of the United States Public Health Service and the Chief Medical Officer of the British Ministry of Health appreciated the international importance of the health activities of UNRRA and helped arrange for the temporary release of experienced personnel from positions in their countries. The U. S. Public Health Service also assigned many of its commissioned officers to service with UNRRA and in September, 1946, there still remained on duty with the Health Division 34 medical and 4 dental of-

ficers, 66 nurses, and 16 sanitary engineers.

The international professional staff was recruited principally from the 48 nations now participating in UNRRA and on as broad an international basis as possible. From Table 2 it will be seen that the 1,134 professional persons in the international ("Class I") category, included nationals of 35 countries and a few classified as stateless or unknown. The posts of greater responsibility were also widely distributed among the nations, as will be illustrated by a few examples. At Headquarters in Washington, the Director of Health came from the United States, the Deputy Director of Health from Czechoslovakia, the Chief of the Far Eastern Branch from China, the Chief of the Epidemic Control Branch from Brazil, and the Chief of the Branch of Medical and Sanitation Supplies from the United Kingdom. In the European Regional Office, the Regional Director of Health is from the United Kingdom, his Deputy from the United States, and the Chief of the Branch on Medical Services to Displaced Persons from France.

Chief Medical Officers for Country Missions and the China Office have been drawn from many countries; to cite only a few examples, from Yugoslavia for China, from Greece for Ethiopia, from the United States for Poland, and from the United Kingdom for Italy and Greece. The Chief Field Medical Officer in China is from El Salvador.

The international doctors and nurses fall into two categories, those with public health training and experience and those primarily concerned with the care of the sick. The public health group was invaluable in the administrative and supervisory offices, and in field work in their specialties. Most of the clinical staff were assigned to assembly centers for displaced persons or to hospitals and clinics for the general population, although a few were primarily engaged in teaching and demonstration. The volume of accomplishment was far beyond what the size of the UNRRA staff would indicate, for staff members worked side by side with a much larger personnel of the local health departments and medical institutions. In China, coöperation by the Health Division was facilitated by a parallel organization, the Health Commission of the Chinese National Relief and Rehabilitation Administration. In the 15 regions, the UNRRA personnel coöperated with their Chinese opposites in a combined effort to restore public health and medical activity to at least pre-war effectiveness as rapidly as possible.

Several hundred doctors and dentists found among the displaced persons were asked by UNRRA to help care for their fellows in the assembly centers. For example, in the British and United States occupation zones of Germany at the end of July, 1946, there were 152 dental clinics staffed by 311 dentists, nearly all displaced persons.

Certain principles determined whether a country desiring assistance needed a Mission and health services. Such assistance was available to invaded countries seriously damaged, and finally liberated from the enemy, which did not have enough foreign exchange to purchase the imports they needed. This was the case with Greece, Poland, Czechoslovakia, Yugoslavia, Albania, Ethiopia, China, Byelorussia, and the Ukraine.

Work was done also in ex-enemy countries under conditions determined by the UNRRA Council. These were Italy, Austria, and Hungary. In Germany, UNRRA assistance was given solely in the care of displaced persons. Limited assistance was given to the Dodecanese, Finland, Korea, and the Philippines.

In the assisted countries, the health staff, headed by a chief medical officer, is an integral part of an UNRRA Coun-

try Mission, and is under the overall direction of the Chief of Mission and his deputies. For technical guidance and general health policies there is, nevertheless, a close dependence on regional offices and headquarters. The international professional health staff in a Country Mission varies from one medical officer in Czechoslovakia and the Ukraine, for example, to 174 professionally trained people in China. However, what we have come to think of as a "standard mission," has at least a chief medical officer with public health training, a chief public health nurse, and a chief sanitary engineer at Mission headquarters, with field personnel in the districts assigned according to need. The large staff of 640 persons in Germany is occupied only with the care and health protection of displaced persons. Similarly engaged are 55 persons in Austria (29 physicians, 26 nurses), 5 in Italy (3 physicians, 1 sanitary engineer, and 1 nurse) and all 17 of the persons in the Middle East.

ORIGIN AND FUNCTIONS OF THE HEALTH DIVISION

When the future historian evaluates the work of UNRRA's Health Division, he will probably attribute greater significance to its service in bridging the war-caused gap in the evolution of international health organization than to its relief operations of a purely emergency nature. Many of the national health departments, on which the world health structure must rest, were inhibited or broken by the most widespread and destructive of all wars. There was an unprecedented shortage of materials, apparatus, transportation, communications and buildings essential to the protection of health and the maintenance of medical care. There was, in addition, disorganization, loss of trained personnel, and isolation from the newer health knowledge. The international bodies such as the League of Nations Health Organization and the International Office of Public Health in Paris, to which the affected national health departments would naturally turn for guidance and leadership, were cut off from most of their field of activity and were largely prevented from functioning. The International Health Division of the Rockefeller Foundation had been forced to terminate most of its activities in Europe, and had as a result deflected more of its attention to South America. The Pan American Sanitary Bureau, operating only in the Americas, was less disturbed. The experiences of these organizations, and the experts they had trained, were most valuable for the restoration of health departments in the liberated countries and in carrying forward the health work of UNRRA.

To face the challenging situation, UNRRA's Health Division was created in December, 1943. Forty-four nations had signed an agreement on November 9 establishing the United Nations Relief and Rehabilitation Administration. The Health Division started operations shortly after the first Council session, meeting in Atlantic City, had laid down in detail the purposes and objectives of the new agency, and had given it the necessary framework of instructions and authority.[2]

The functions of the Health Division may be summarized briefly as follows:

1. Assistance to national health authorities
   a. in the prevention of war-engendered epidemics,
   b. in the rapid restoration of national health departments,
   c. by assignment of technical staff for consultation and coöperation,
   d. in determining the requirements in medical and sanitary supplies to replace losses through destruction, looting, and the cutting off of sources, and in coöperating with UNRRA's Bureau of Supply in related technical matters of procurement and distribution.
2. Revision and administration of international sanitary conventions for maritime and aerial quarantine, as applied to signatory mem-

bers of the United Nations, and the carrying out of the specific duties imposed on UNRRA by the revised conventions.

3. Provision and technical supervision of medical and sanitary personnel for the care and health protection of persons displaced by war wherever UNRRA has responsibility for them in assembly centers, or camps, or during travel back to their countries.
4. Training of professional health and medical personnel of the assisted countries, in preparation for relief and rehabilitation work, through study fellowships in foreign lands and by supplying teachers and lecturers for courses in the assisted countries.

PREVENTION OF EPIDEMICS

The great wars of history have been accompanied and followed by sweeping epidemics, usually directly related to the devastation and hardship. In the recent World War, since the destruction was more widespread than ever before, the greatest catastrophes were to be expected. Multitudes of people were being driven from place to place. Thousands were crowding into makeshift dwellings. Scarcity of food, clothing, medical care, and even of pure drinking water was almost universal. And most of the health departments that had survived the war had been completely disrupted and so largely deprived of necessary personnel and supplies that they were quite ineffectual.

The only hope of avoiding major health disasters lay in the advances in medical science made since the previous World War and in early organization to apply this new knowledge effectively.

Appreciating the appalling risks to world health, the Council of UNRRA gave the Health Division a wider mandate with regard to epidemic prevention than in its other fields of activity. It authorized measures to control epidemics not only in liberated areas but also in enemy and ex-enemy countries with the purpose of preventing the spread of such epidemics to United Nations areas or to displaced persons of United Nations nationality.

Of the war-engendered epidemics to be expected, the one that presented the most alarming threat was typhus fever. Consequently, the Health Division felt the highest degree of responsibility for curbing it. Without control, widespread epidemics of typhus were inevitable. With control, safety was possible because of the effective new weapons which had been developed against the disease. UNRRA was in a position not only to secure and distribute vast quantities of DDT delousing powder, but through its field staff it could give directions as to the method of application.

The results have been highly gratifying. No great runaway epidemics of typhus have occurred as the result of the recent war. Credit must be given first to those who devised the practical and effective methods of delousing fully clothed persons by powdering with DDT. The Bureau of Entomology of the U. S. Department of Agriculture, the International Health Division of the Rockefeller Foundation, and the United States of America Typhus Commission all contributed invaluable evidence obtained through experiments and field trials. Before UNRRA had free access to some of the critical areas, the occupying armies, the U. S. A. Typhus Commission, and the International Red Cross here and there helped the local health authorities to keep the situation in check. As soon as the shipping lanes were cleared, UNRRA dispatched thousands of tons of DDT powder and many hundreds of dust pumps. UNRRA staff was sent in to help organize control and to give instruction in methods. A limited amount of typhus vaccine was supplied also but it was not used on a large scale in the general population, and therefore played only a secondary rôle. The size of UNRRA's effort is disclosed by the large amount of 10 per cent DDT delousing powder which is being distributed to the various countries, as shown in the first column of

TABLE 3

Total Program for Shipping DDT, by Recipient Countries

Recipient Country	For Typhus Control	For Malaria Control		
	10% DDT Powder	20% DDT Solution	26% DDT Solution	100% DDT Powder
	In Pounds	In Gallons	In Gallons	In Pounds
Albania	198,100	39,000	50,000	24,000
China	2,394,410	....	130,000	250,000
Czechoslovakia	216,040	....	....	6,450
Ethiopia	170,000	....	4,000	....
Greece	205,175	275,204	253,000	533,100
Hungary	8,900	....	....	....
Italy	224,640	....	225,000	406,000
Korea	100,000	....	....	....
Philippines	....	....	....	20,000
Poland	2,014,980	....	....	157,525
Yugoslavia	1,254,236	90,000	270,000	55,000
Totals	6,786,481 (3,393 tons)	404,204	932,000	1,452,075

Table 3. The other columns showing the amounts of DDT being shipped for use in malaria control will be referred to later. A single dusting of one person requires about 2 ounces of the 10 per cent DDT delousing powder, and it is effective for several weeks.

Probably the most practical estimate of the general results of the campaigns against typhus can be obtained by comparing the typhus incidence in Poland in the years 1919 and 1920, immediately after World War I, with the available figures for part of the corresponding period of 1945 and 1946, after World War II. This is done in Table 4 and Chart 1.

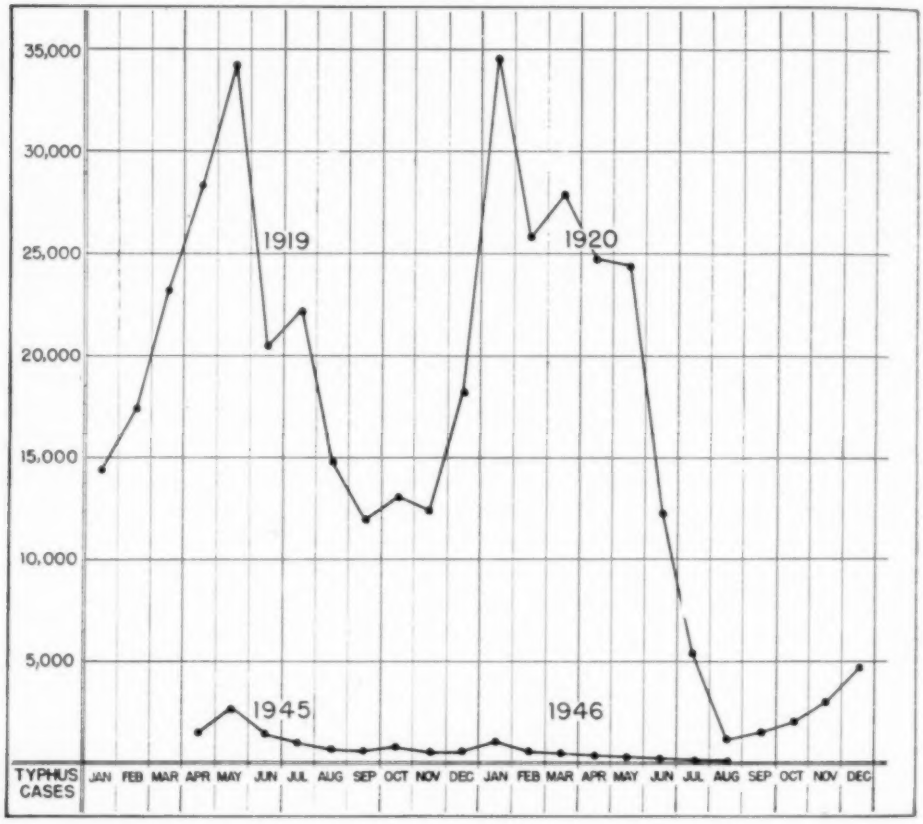
In 1919, the maximum monthly incidence was 33,929 cases in May. For 1945 our reported figures began with April, and the comparable peak seems to have been reached also in May with 2,987 cases, or less than one-eleventh as many as in May, 1919. In 1920 and the early part of 1946, the corresponding maximum figures, both of them in January, were 34,530 and 1,235, giving a ratio of approximately 28 to 1. The data for 1919–1920 are for Congress Poland and Galicia only, while those for 1945–1946 relate to the present territory of Poland, including the three former German provinces which came under Polish administration in September, 1945. Eastern Galicia is therefore excluded in the later period, but Poland

TABLE 4

Typhus Fever in Poland, 1919–1920 and 1945–1946

	Number of Cases		Number of Cases	
	1919	1920	1945	1946
January	14,207	34,530	....	1,235
February	17,061	25,858	....	635
March	23,272	27,843	....	516
April	28,190	24,616	1,867	417
May	33,929	24,339	2,987	221
June	20,445	12,329	1,795	89
July	22,287	5,366	1,536	99
August	14,735	1,388	794	78
September	11,986	1,650	782	47
October	12,980	2,195	869	....
November	12,382	3,013	601	....
December	18,333	4,576	682	....

CHART 1—Typhus fever incidence in Poland after World War I in comparison with the incidence after World War II



west of the German frontier of 1914 is included, which makes the two sets of figures fairly comparable. Moreover, the differences observed in the comparisons are so great that we are not attempting here to make allowances for changes of area or population. It is evident from the chart that typhus in Poland is being conquered and that the war emergency with respect to this disease is over. In fact, we are given hope that Poland could exterminate typhus before long by the modern methods which have been introduced. This result could be hastened by international planning with participation by Poland's neighbors as well.

A flare-up of typhus fever in Yugoslavia was also to be expected, for it was in Serbia that the great epidemic of 1915 occurred early in the previous World War. During that visitation, over 150,000 people died of typhus within a period of 6 months, and the daily admissions for typhus to military hospitals alone rose to the staggering height of 2,500. Nothing comparable was permitted to occur in the recent war, although the disease was epidemic in Croatia and Serbia before effective control could be initiated. The U. S. of America Typhus Commission was invited early to Yugoslavia to help control typhus. The Commission organized control by DDT dusting and vaccination and trained many persons in the

methods. Later UNRRA took over and continued to advise and to provide the necessary supplies. Typhus in Yugoslavia is steadily responding to control. There were about 50,000 cases in 1945, but only 3,000 in the first half of 1946.

The same rosy picture cannot be painted for another serious preventable disease. During my visit to Poland in November and December, 1945, I was astounded at the amount of typhoid fever then present. It was being largely attributed to the great amount of migration and to contact between cases. Unfortunately, we had no new techniques, comparable to the use of DDT in a dust gun, that could be used for combating epidemics of typhoid. Since then the Health Division has assigned two sanitary engineers to its Poland Mission in the hope that they can assist the trained sanitary engineers of the Ministry of Health in discovering and correcting some of the responsible conditions in the post-war environment.

In Table 5 and Chart 2 is shown for comparison the monthly incidence of typhoid and typhus fevers from April, 1945, to August, 1946. The great seriousness of typhoid and the present low incidence of typhus are clearly shown. The typhoid fever maximum in October, 1945, was 17,629 cases and the peak in May of the same year for typhus was only 2,987 cases. The three former German provinces now under Polish administration are included only from September, 1945. Later returns show

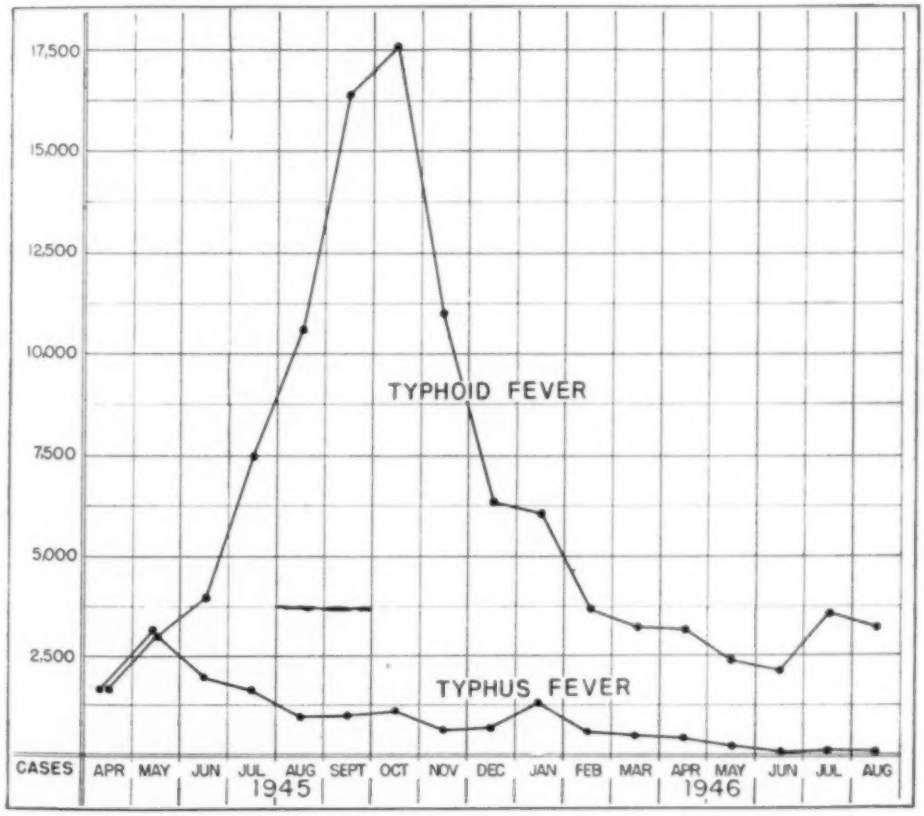


CHART 2—Comparison of typhoid fever and typhus fever incidence in Poland, April, 1945–August, 1946

TABLE 5

Typhus and Typhoid Fever in Poland, April, 1945–August, 1946

	Number of Cases	
	Typhoid Fever	*Typhus*
April, 1945	1,871	1,867
May	2,825	2,987
June	3,835	1,795
July	7,457	1,536
August	10,628	794
September	16,569	782
October	17,629	869
November	10,999	601
December	6,345	682
January, 1946	5,983	1,235
February	3,551	635
March	3,180	516
April	3,110	417
May	2,335	221
June	2,088	89
July	3,475	99
August	2,680	78
September	2,605*	47*

* Provisional figures

that typhoid seems definitely to be coming under control.

The war and post-war conditions that brought a marked increase in the prevalence of typhoid fever in countries of continental Europe would have spread cholera also, had it not been completely absent. In fact, the disease had not extended west of Iran since 1931. In China, on the other hand, cholera is endemic and was quite active in the summer season of 1946.[3] UNRRA was first called on for emergency help in fighting cholera in June of the previous year when an epidemic was developing in Chungking. An UNRRA team of 7 physicians and 2 sanitary engineers, with 6 tons of needed medical supplies, was flown to India and over the Hump to that city. Unfortunately, one installment of the supplies was lost over the Himalayas. The team took part in the control of the epidemic and the care of the sick.[4]

Early in March of this year (1946), I saw in the Contagious Disease Hospital of Canton the first five cases of cholera of the recent epidemic. Subsequently, other cities of China were involved successively. The experience of the larger ones is shown in Table 6. By mid-summer, cholera became active also in southern Manchuria, where it flared up in numerous localities. In July alone, 11,910 cases and 4,697 deaths were reported from 26 cities and 2 rural areas of Manchuria.

Assistance to the Chinese authorities in the control and treatment of cholera has been promptly given by the medical staff of UNRRA. Cholera vaccine for mass immunization, and even calcium hypochlorite for water purification, were flown to Canton early in its epidemic. Since then several emergency shipments of material necessary for fighting cholera and for treating the sick with intravenous salt solution and plasma have been sent by air directly to China from

TABLE 6

Cholera Cases in Certain Chinese Cities, 1946

Month	*Canton*	*Shanghai*	*Nanking*	*Foochow*
March	548	0	0	0
April	1,196	0†	0†	0
May	853	27†	0†	0
June	1,097	816	4	22
July	250	2,468	209	422
August	37	933	300	204
September	22*	171	22	44*
Total, Cases	4,003	4,415	535	692
Deaths	1,208	352	31	133
Case Mortality per cent	30.2	8.0	5.8	19.2
Population in thousands	1,000	3,500	700	325

* 20 days only
† Excluding imported cases

Toledo, Ohio. In Shanghai, two million cholera vaccinations had been performed by early July and this may have been one reason that the epidemic was losing momentum by the middle of that month. Investigations in connection with the cholera epidemics in Canton and Shanghai were carried out by an epidemiologist of the China Office.

Plague was almost completely kept out of the European post-war picture. It gained entry to the port of Taranto in southern Italy when the disease was present in the island of Malta. From September 3, 1945, to October 25, there were 25 cases in Taranto with 12 deaths. An anti-rat campaign was initiated. All the premises in the infected area were sprayed with 5 per cent DDT in kerosene to kill the potentially infected fleas, and about 20,000 workers were dusted weekly with 10 per cent DDT powder. UNRRA, as part of its coöperation, made available the advice of an expert on rat extermination. There was no spread to other cities.

In China, plague was a greater problem, but there was no really extensive epidemic after the country was liberated and opened to UNRRA. Since then, the focus centering in Fukien Province has been active.[5] In the early months of 1946, there was much concern over reports from Mukden of pneumonic plague in Manchuria. There were 39 cases with 36 deaths, and the recovery of 3 was attributed to treatment with sulfadiazine. This small outbreak stopped abruptly, but there were 13 additional fatal cases of plague early in March about 70 miles from Mukden. The National Health Administration is continuing the study and control of plague in the Fukien area, using supplies sent by UNRRA, such as plague vaccine, sulfadiazine, DDT for killing fleas, and poison for rats. UNRRA has also assigned to this work a team consisting of an epidemiologist, an entomologist, and a sanitary engineer.

Since Kala-azar is a disease transmitted by a bloodsucking fly, a species of *Phlebotomus*, it can hardly be regarded as a result of the war, although aggravated by the resulting neglect. There are about three hundred thousand persons near the Yellow River in Honan, Kiangsu, and neighboring Provinces, who have this serious disease in acute form and urgently need treatment. They have been cut off by the war from the source of supply of the antimony drugs that would cure them. UNRRA's Chief Medical Officer in China has urged that for the time being these drugs be given priority over all other medical supplies in shipments to China. Unfortunately, the world's entire manufacturing capacity for antimony drugs is not enough to fill the needs promptly and it is proving necessary to bring about the expansion of the facilities for production. The medical officers of UNRRA and CNRRA are not satisfied to limit their program to treatment alone and are hoping to use DDT supplied by UNRRA in an attack on the *Phlebotomus* responsible for transmitting the disease, thus initiating a program of real prevention. This may not get into full swing until more is known of the insect and its habits.

For several years, diphtheria has been the leading epidemic disease in a large part of Europe.[6] Great quantities of diphtheria toxoid for immunization and antitoxin for treatment are being shipped by UNRRA to the assisted countries. The amount of diphtheria toxoid in the supply program is 6,015,960 ml., or enough to immunize 2,406,384 persons. Diphtheria antitoxin is being supplied up to a total amount of 5,167,080,000 units. Material for the Schick test also is provided.

CURBING ENDEMIC DISEASES

The incidence of tuberculosis has gone up so high in the war-ravaged countries that this disease presents a serious and

lasting post-war problem, as it did after the first world war. Tuberculosis experts on UNRRA's staff have made surveys in many countries, using mass radiography, have analyzed the problem, have given advice as to the control of the disease, and have assisted in restoring and correcting the institutions for the tuberculous. Such a program has reached an advanced stage in Greece, for example, but is still far from complete.[7] The Greece Mission has a Chief Tuberculosis Consultant and under him are five area teams, each consisting of a tuberculosis specialist, nurses experienced in this disease, a radiologist, and a clerk. These teams travel from village to village, examining people to determine the extent of the problem, inspecting sanatoria and helping set up clinics, advising the authorities, and training technicians in the use of radiographic units. Some 70,000 persons have already been examined by mass miniature radiography. When tuberculosis has been dependably diagnosed, an effort is made to arrange for supplementary rations. Interest has been stimulated, an advisory National Tuberculosis Council has been organized, and there is large-scale coöperation from voluntary agencies. Supplies from UNRRA have been given to nearly every sanatorium and dispensary in Greece. Such supplies range from bedsteads and x-ray apparatus to drugs and special surgical instruments. All this is of great assistance to the governmental health authorities, who are facing an otherwise insuperable problem, for in Greece as in the other liberated countries the surveys reveal a marked increase in tuberculosis.

The results of the tuberculosis survey in Poland have been published by an UNRRA specialist.[8] He reports that the restoration of the sanatoria is going ahead and that much equipment has come from UNRRA. In Italy, the war against tuberculosis is benefitting not only from the UNRRA surveys and equipment but also from generous allotments by the government from the proceeds of sales of UNRRA supplies.

Wars produce a marked increase in venereal diseases, and World War II was no exception. Fortunately, treatment has become much more effective in recent years, and the knowledge of methods of control has also advanced. UNRRA has supplied large quantities of drugs useful in treating diseases of this class and has supplied information about their use. A specialist in venereal disease control and treatment has been attached to the UNRRA Mission in Poland, and several of the other medical officers possess special knowledge and experience in this field.

In the treatment and control of many diseases beside those here mentioned, there is a growing dependence on specific and effective drugs. Many of the older effective drugs were not generally available in the occupied countries during the war. The more recent ones were not known when the war started and had not been brought in when UNRRA began operations. The physicians and health officers were eager to get the newer drugs and biologicals and information regarding their effectiveness, safety, and methods of use. To illustrate the quantities in which drugs were supplied by UNRRA, I shall give a few items from UNRRA's total procurement program for the assisted countries: penicillin, 809,550 million units; insulin, 663,690 thousand units; various sulfa drugs, 1,074,265 lbs.; acetyl-salicylic acid (aspirin), 1,207,000 lbs.

CAMPAIGNS AGAINST MALARIA

Several of the liberated countries assisted by UNRRA have suffered long and intensely from malaria. The war increased the problem by disrupting drainage systems, depriving the public of suppressive and curative drugs, and in general interrupting the existing

activities against malaria. An extraordinary opportunity for widespread and systematic malaria control presented itself to the Health Division after these countries were liberated, and no time was lost by the sanitary engineers of the Division in organizing the field operations. The new methods which made cheaper and more effective control possible were the residual spraying of houses with DDT solution to destroy the adult mosquitoes and the distrtibution of the same insecticide from hand pumps or airplanes on water surfaces to kill the larvae.

The largest of the campaigns planned by UNRRA personnel in coöperation with the governmental health authorities were in Italy and Greece. The results were highly successful and the procedures were most popular. Not only did mosquitoes diminish and malaria almost disappear, but there was also a heavy incidental mortality among houseflies, bedbugs and fleas.

The campaigns in Italy were carried out with the approval of the High Commissioner of Hygiene and Public Health and with the coöperation of the Provincial Medical Officers and the antimalaria committees. The program depended mainly on residual spraying. It began in Sicily in January, 1946, and was continued first in Frosinone, then in the highly malarious strip of the south coast of Central Italy, and finally in the delta of the River Po. In the entire operation, the Italy Mission of UNRRA supplied technical supervision through its engineers. Moreover, it furnished 21 vehicles, 50 tons of pure DDT, 216,000 gallons of kerosene, 8,000 gallons of concentrated DDT emulsion, and the necessary sprayers. Twenty-five to 150 persons were engaged in spraying in each of the areas treated. These areas had an extent of 1,890 square miles and included about one-third of the total malarious territory of Italy, excluding Sardinia. The number of houses sprayed was 50,000; other structures similarly treated numbered 143,000; and the total area of internal wall space sprayed was 31,405,049 square meters. The good results gave rise to the prediction that a similar scheme of operations applied to all the malarious areas in future years could reduce malaria until it ceased to be a problem.

The preliminary work of an attempt to eliminate malaria from Sardinia by exterminating the anopheline species responsible for transmission has been started. This will be a joint project of the Government of Italy, the International Health Division of the Rockefeller Foundation, and UNRRA. The International Health Division is supplying the directing scientific staff, the Government is allotting funds for expenses from the proceeds of the sale of UN RRA supplies, and UNRRA is making available motor equipment, DDT, and other materials. Encouraged by the successes in eliminating *Anopheles gambiae* from Brazil and southern Egypt, the directors of the project are hopeful that a similar drive on the European anophelines responsible for transmitting malaria in this isolated island will result in their complete and permanent elimination.

The campaign against malaria in Greece was nation-wide from the start, and was planned and directed by the Chief Sanitary Engineer of the UNRRA Mission in coöperation with the Greek health officials. The methods all involved the use of DDT and included residual spraying of houses, distributing an oil solution of this larvicide by hand pump on small mosquito breeding places near malarious villages, and applying 20 per cent DDT as a thermal aerosol to large and inaccessible breeding places from 10 specially equipped airplanes. It is estimated that approximately 300 tons of DDT, in terms of the pure chemical, will have been used during

1946, or most of the supply designated for Greece in Table 3. For administrative purposes Greece was divided into 11 regions, in each of which there were an UNRRA medical officer and a sanitary engineer who worked in close cooperation with a Greek Government malariologist and a sanitary engineer. Seventeen planes were supplied by UNRRA, of which 10 are used in the regions. The other 7 are used for training pilots, for inspection trips, and as a source of replacement parts. Each plane can treat 17 acres per minute, and approximately 285,440 acres of mosquito breeding surface have been treated, counting each area every time it is gone over. The interval between treatments is about 15 days. This amount of operation by airplanes has required 17,840 gallons of 20 per cent DDT. Residual spraying has been applied to over 4,000 villages and towns to approximately 300,000 houses, stables, and other diurnal resting places for mosquitoes. The results of the combined methods seem to have been excellent and the people are enthusiastic. The fall survey should give a more accurate estimate of the reduction in malaria and its mosquito vectors.

The malaria experience of the Health Division seems to have demonstrated that it has at last become practicable and economical to control malaria on a national scale.

VARIOUS OTHER ACTIVITIES

It is natural that nutrition should be a prime interest of the Health Division in view of UNRRA's great responsibility to supply food under its relief program. Medical Nutrition Consultants and Dietitians of the Health Division made many surveys of the physical condition and diets of population groups suffering from food deprivation. Their primary duty was to report on the current state of nutritional health and to advise on matters of food and nutrition. The detailed survey for Italy has already been published.[9] Some of the specialists made observations of acute starvation in Germany, Holland, and China. One of them organized a group of about 100 medical students and directed their efforts to save starving inmates of Belsen Camp by scientific methods.

In Italy, in addition to the study cited above, there was an extensive survey by the Italian Medical Nutrition Mission sent out by the Unitarian Service Committee and the Congregational-Christian Service Committee with the coöperation of UNRRA. They undertook to find out, by experimental feeding of malnourished children, what important food elements were most lacking, and to advise UNRRA as to needed supplements to the diets being supplied to hospitals. This team of medical scientists and laboratory technicians worked from April, 1945, to March, 1946, in six different parts of the country. It examined 28,651 persons, and gave service to 1,984.

In China, five CNRRA-UNRRA nutrition teams investigated the famine areas to determine their nature and extent. The results confirmed the existence of acute famine and general low caloric and protein intake, especially in Hunan Province. As a follow-up, special emergency supplies, including vitamin products and serum protein, were flown in from Shanghai. In the meanwhile every attempt was being made to hasten the sending of quantities of food.

The general conclusions in the reports from all countries investigated seemed to be that various degrees of underfeeding were encountered, sometimes actual starvation, but that frank deficiency diseases, such as scurvy, pellagra, rickets, and beriberi, were less frequent than would be expected. Of these diseases, rickets is the one most frequently encountered.

Consultants in maternal and child

health have made surveys and advised the governments and Missions. A school feeding program is a prominent feature in the Greek program, and the preschool children also receive attention.

Dental consultants have surveyed the needs in the several countries for dental care and have given special attention to the organization of dental services in assembly centers for displaced persons. The dental consultant attached to the European Regional Office has given lectures and demonstrations to the local dental profession.

The medical and surgical side of the rehabilitation of the disabled is a responsibility of the Health Division, although the other aspects have fallen to welfare workers and voluntary agencies. In Athens, a rehabilitation center has been sponsored by the Greek Government, UNRRA, and the Near East Foundation. The Health Division has provided an orthopedic surgeon consultant. Artificial limbs and materials for local manufacture and repair are being supplied.

A series of UNRRA facio-maxillary surgery teams was sent to Yugoslavia from London. The first, consisting of 6 persons, arrived near the end of 1945. These teams demonstrated the latest techniques for correcting mutilation, and trained local surgeons and nurses.

In many projects which have been mentioned voluntary agencies took an effective part. This was especially the case in the work with displaced persons in the Middle East Camps and in Germany. Voluntary agencies provided health personnel numbering about 500 for work in Europe and an additional number for China. They also contributed medical supplies for devastated areas.

INTERNATIONAL SANITARY CONVENTIONS

The occupation of France isolated the International Office of Public Health and interfered with its administration of the International Sanitary Convention of 1926 (Maritime) and the International Sanitary Convention for Aerial Navigation of 1933. This left international quarantine in so serious a predicament that something had to be done about it. To meet the situation UNRRA's Standing Technical Subcommittee on Health for Europe promptly appointed an Expert Commission on Quarantine to draft international sanitary agreements of an emergency nature.[10] The Commission later submitted to the Standing Technical Committee on Health in Washington drafts for two conventions, modifying and modernizing the existing ones. Each draft provided that UNRRA should carry out the duties previously assigned to the International Office of Public Health in Paris. After some modification in the light of the comments of member governments, UNRRA approved the proposed conventions and they were opened for signature at the State Department of the United States of America, the depository of the conventions. The required number of signatures was reached on January 15, 1945. The two conventions of 1944 came into effect on that date and have been administered since then by the Health Division from the Headquarters of UNRRA in Washington, with the European Regional Office in London acting as a branch for the regions in its sphere—Europe, Africa, and the Middle East. Headquarters makes notifications directly to China, Australia, New Zealand, Canada, and the United States, and through the Pan American Sanitary Bureau to the other American republics.

At Headquarters, the Division is publishing the semi-monthly *Epidemiological Information Bulletin*, carrying disease reports and epidemiological analyses. The European Regional Office is bringing out an additional fortnightly *Bulletin of Communicable Diseases and Medical Notes* for distribution to the governments in its area. A small *Weekly*

Epidemiological Bulletin is also sent out from London in printed form to give prompter information regarding the appearance and movements of serious diseases. Most of the reports to and from both offices with regard to pestilential diseases are transmitted by cable.

The duties imposed by the 1944 convention for aerial navigation include the delineation of the yellow fever areas of the world for purposes of quarantine, and also laying down standards for yellow fever vaccine and designating institutes approved for carrying out tests of the vaccines. These special functions have been performed by an Expert Commission on Quarantine appointed by the Standing Technical Committee on Health. In 1946 the Commission carried out an exhaustive test of the immunizing properties of the Dakar yellow fever vaccine administered by scarification, alone or mixed with smallpox vaccine. The Commission recommended that the method be certified as acceptable in the issuance and recognition of international certificates of inoculation.

All the duties imposed on UNRRA by the International Sanitary Conventions of 1944 and the Protocols prolonging them were of temporary and emergency nature. They will, therefore, be transferred to the Interim Commission of the World Health Organization on December 1, 1946, as agreed in letters exchanged by Mr. F. H. LaGuardia, Director General of UN RRA, and Dr. G. Brock Chisholm, Executive Secretary of the Interim Commission. Although the Central Headquarters of the Interim Commission will remain in New York, according to latest advices, the Epidemiological Office in charge of the administration of the conventions will be in Geneva.

The last issue of the *Epidemiological Information Bulletin* will appear on December 15. The two complete volumes will form a valuable compilation of statistics for reference with regard to the war and post-war period. Complete sets can still be made available to libraries and institutions requiring them.

MEDICAL CARE AND HEALTH PROTECTION OF DISPLACED PERSONS

In May of 1944, the responsibility for the six refugee camps in the Middle East was assumed by UNRRA. At the end of March, 1945, there were about 40,000 displaced persons in these camps, including nearly 15,000 children. The health staff contained specialists in nutrition, dietetics, tuberculosis, maternal health, child health, public health nursing, and sanitary engineering, and also clinical doctors and nurses. Since then, most of these refugees have been repatriated. Each returning group was accompanied to its destination by an UNRRA repatriation team, including a doctor and two nurses. There now remains only one of these camps, at El Shatt, with a few hundred refugees.

A problem of greater magnitude was presented by the displaced persons under UNRRA care in Germany, Austria, and Italy. At the end of May, 1946, there were 826,580 such persons in assembly centers in the three countries. The Health Division was responsible for recruiting the necessary health personnel and giving technical supervision. An extensive immunization program was undertaken. In most of the assembly centers a large part of the medical, dental, and nursing services was provided by professional persons found among the displaced persons, with overall supervision by UNRRA staff. Dispensaries have been set up and arrangements made for hospital care, mostly in local institutions with UNRRA supervision. Nurses among the displaced persons are being given refresher courses, and other women are being trained as nurses' aides, in order to replace UNRRA nurses as they are withdrawn. The health conditions in the

assembly centers have been on the whole quite satisfactory.

INSTRUCTION OF HEALTH PERSONNEL

In the long run much more is gained by training the nationals of a country to do their own health work than by introducing relays of foreigners to do it for them. For training for participation in relief and rehabilitation work in the field of health, UNRRA brought many Fellows from the assisted countries to educational centers of the United States and of the United Kingdom and other countries of Europe, and arranged for their studies and tours of observation. The first group consisted of 12 technical experts from China who came to the United States in 1944. After their return, many of them assumed key positions, becoming, for examples, Head of the Medical Commission of CNRRA, Director of Medical Supplies of this Commission, Director of the Anti-Epidemic Prevention Bureau of the National Health Administration, Director of Hospitals and Health Centers of the NHA, and Head of the Department of Sanitary Engineering in the National Institute of Health.

In 1946 a new program of UNRRA fellowships was offered, with 44 falling to the Health Division. The recipients included physicians, nurses, sanitary engineers, radiography technicians, and students of penicillin production. They received their instruction in the United States, Canada, the United Kingdom, Sweden, and Switzerland. In 1946 there was set up also a special Nurse-Teacher Fellowship project. The Fellows were carefully chosen graduate nurses interested in teaching, 121 in number. Twenty-seven came from Italy, 20 from China, 18 from Czechoslovakia, and 19 from Poland. This group received its special training in institutions of the Department of Hospitals of New York City, with brief observation trips to other centers. Twenty nurses from Austria and 17 from Greece were similarly trained in London.

In another of the training projects of the Health Division, medical teaching missions were sent to Poland and Czechoslovakia to visit the medical centers and bring the newer knowledge of the war years to the medical and dental professions. They had been almost completely isolated during the war years. The lecturers were provided for Poland and Czechoslovakia by a voluntary agency, the Unitarian Service Committee, with the coöperation of UNRRA. In Czechoslovakia, 14 lecturers from 8 universities began their tour in Prague and then went to Moravia and Slovakia, giving lectures and demonstrations in all 6 of the medical schools of the country. In Poland, the team of 7 lecturers included 2 dentists. It visited the principal cities, giving lectures to professional groups and students and leading discussions. Several lecturers had previously been sent to Poland by the Health Division, beginning in November, 1945, to get this valuable and much appreciated teaching started.

In 1945 a team of 11 teachers was sent to China to start a medical training program in conjunction with the National Institute of Health. The early courses in Chungking, with a total enrollment of 258 students, covered public health administration, medicine, surgery, gynecology, tuberculosis, public health and hospital nursing, maternal and child health, and bacteriology. A second series of courses was given in Peiping in the spring of 1946, with 136 students. In the interval between the two series, the teachers gave refresher courses to local medical societies and schools in Shanghai, Nanking, Peiping, and Tientsin. More recently they were assigned to medical schools in Peiping, Nanking, Chengtu, and Shanghai. Other technical personnel of the Health Division working in China have co-

operated in short courses or lectures for laboratory technicians, dentists, medical students, nurse trainees, field workers in rodent control, and medical supply officers.

The UNRRA nurse consultants in several countries, and especially in Greece, worked with the local nurse leaders in reopening and reorganizing schools of nursing and giving refresher courses in public health.

The Health Division's project in Ethiopia is essentially an attempt through teaching to take the first steps toward creating an indigenous medical and nursing profession. In this way, the ground work will be laid for a future public health service, and meanwhile the people will benefit from service of steadily rising quality. Courses for medical "dressers" and for sanitary inspectors are being conducted, and assistance is being given to the hospitals and clinics essential to this educational effort.

HANDING OVER TO A PERMANENT ORGANIZATION

The activities of UNRRA as here outlined are coming to an end, but many of the needs will continue and great opportunities stand open. So UNRRA has made its plans, in conference with officers of the Interim Commission of the World Health Organization, to hand over a number of its functions, on January 1, 1947, for Europe and Africa, and on April 1 for the Far East. The activities suggested for transfer to the Commission are (1) fellowships and teaching, (2) the project in Ethiopia, (3) tuberculosis, (4) malaria, (5) missions of experts to countries with special needs, and (6) the administration of these functions. To make possible the continuation of this work in the present UNRRA-assisted countries for approximately one year, after which the World Health Organization should be fully established, the Central Committee has authorized the Director General of UNRRA to turn over $1,500,000 to the Interim Commission. No supplement of the Commission's budget will be needed when the administration of the sanitary conventions is transferred on December 1.

The temporary Health Division will soon be giving place to a permanent and growing international health organization. On relinquishing their duties, the officers of the Health Division hope that their efforts have accomplished more than the alleviation of ravages of war. The World Health Organization should make a quicker start and be able to see its way more clearly because UNRRA, at a most difficult time, attacked the problems of international health.

REFERENCES

1. *Journal*, Fifth Session of the Council, United Nations Relief and Rehabilitation Administration, Geneva, 5:146 (Aug. 17), 1946.

2. Selected Documents. First Session of the Council of the United Nations Relief and Rehabilitation Administration, Atlantic City, New Jersey, Nov. 10–Dec. 1, 1943, pp. 139–148. UNRRA, Washington.

3. Stowman, Knud. (Notes on Cholera) *Epidemiological Information Bulletin* (UNRRA), 1:465–469, 551–561, 2:674–678, 718–720 (July 15–Sept. 15), 1945, 1946.

4. Reimann, Hobart A., Chang, G. C. T., Chu, L.-W., Liu, P. Y., and Ying, Ou. Asiatic Cholera. Clinical Study and Experimental Therapy with Streptomycin. *Am. J. Trop. Med.*, 26:631–647 (Sept.), 1946.

5. Fan, J. H. Communicable Diseases in China during Recent Years. *Epidemiological Information Bulletin* (UNRRA), 1:495–521 (July 31), 1945.

6. Stowman, Knud. The Diphtheria Situation in Europe. *Epidemiological Information Bulletin* (UNRRA), 2:147–158 (Feb. 28), 1946.

7. Vine, J. M. UNRRA's Health Campaign in Greece. *Lancet*, 250:789–791 (May 25), 1946.

8. Daniels, Marc. Tuberculosis in Poland. *Lancet*, 251:537–540 (Oct. 12), 1946.

9. Metcoff, J., and McQueeney, A. J. Clinical Malnutrition in Italy in 1945, Nutritional Status of Selected Population Groups. *New England J. Med.*, 235:451–460 (Sept. 26), 1946.

10. Souza, G. H. de Paula. History of the International Sanitary Conventions, 1944. *Epidemiological Information Bulletin* (UNRRA), 1:5–12 (Jan. 15), 1945.

Report of the Chairman of the Executive Board of the American Public Health Association to the Governing Council 1945–1946

THIS was the year when the membership of the Association went over the 10,000 mark. Many of my colleagues would feel, perhaps, that this is a less dramatic statement with which to open an annual report than might be made about any one of half a dozen events of an especially eventful year.

I hold, however, to the old-fashioned idea that in a democracy or in a democratic organization people are more important than happenings and that events have significance and meaning only as they are judged by their effects upon people.

Five years ago five thousand persons by the fact of their membership sanctioned what the Association is, what it stands for, and what it has done. Now as then sole compulsion to join this professional society comes from the voluntary urge of the individual to enter a community of persons with similar objectives and aspirations. But the urge is not translated into action unless it is rooted in the belief that the common cause is being advanced in a direction and by methods acceptable to the individual. Today twice 5,000 individuals sanction the Association's purposes and its program. Among them there may be healthy differences of opinion but there is no fundamental confusion. This is the perspective in which we attempt to assess what has been made to happen by the 10,000 men and women who are this organization.

Ours is a community of influence and power. No one can scan the *Membership Directory* which has just been published, in which each of the 10,000 and more is listed and identified, without an awareness of the great strength which is there in total. The vast professional reservoir, this collective public health "know-how," cannot be matched anywhere in the world in a single organization. It is the Association's prestige. It is the Association's propulsion into a position of leadership as new vistas open before us. It is the reason it is entrusted with responsibilities which might conceivably be fulfilled under other auspices but without the authority the Association alone possesses.

These acquisitions to our joint resources and energies, which in essence is what the growth in membership over the past few years means, have had their effect in very concrete terms. The first consequence of a membership which has passed the 10,000 figure is the demand for more service from the Central Office. Simple mathematics show us that ten thousand members want more books, more *Journals*, more reprints, more information, more self-expression, more of everything on a sheer quantitative basis than 8,000 or 5,000. As a result the secretarial and stenographic force has been enlarged. A more subtle and more important consequence is that new projects have a way of being laid at the door of a going concern of proved power and effectiveness and

they require professional attention at headquarters. The expansion of professional staff has, therefore, been mandatory this year. Young, qualified persons have been selected for specific responsibilities as the Association has accepted more opportunities to be useful to public health workers, and through them, to the public.

In May an Engineering Associate was added to the administrative staff. Plans are now under way to secure an engineering field consultant. These two appointments recognize the importance of the engineer in public health programs and make his interests one of the paramount concerns of the Association at a strategic time. A medical vocational consultant on a full-time basis is in charge of the counselling and placement service. The Merit System Unit staff has been augmented by a field consultant with major experience in education and psychology. The Subcommittee on Medical Care has opened a Washington office with a technical secretary, a medical field consultant, and a research associate.

None of this strengthening of the Central Office staff could have been effected if the projects to which these new persons are attached had not commended themselves as worthy of support to foundations and other agencies. The Rockefeller Foundation has made possible the work of the Subcommittee on Medical Care. The National Foundation for Infantile Paralysis has provided the funds for the enlargement of the Merit System Unit staff, its officers realizing the value to their own objective—the elimination of poliomyelitis and the alleviation of its effects—of well trained, properly selected local and state public health personnel. It is for this reason that they have wisely provided funds for the extension of the services of the Merit System Unit to local health departments. The introduction of the engineering field consultant service has come about by funds raised by the sanitary engineering profession itself on a matching basis with funds provided also by the National Foundation for Infantile Paralysis.

In a report in which expansion is the keynote, it is appropriate to acknowledge at the outset the generosity and confidence of these foundations and agencies for their contributions to the growing process. The Albert and Mary Lasker Foundation has provided funds for the Lasker Awards and their administration. We include in our appreciation others whose continued financial coöperation, in many instances over a long period of years, has sustained enterprises which have become part of the Association's permanent program. The patriarch among these is The Commonwealth Fund with its support of state studies for the Committee on Administrative Practice, and its continuation for the second year of support for the Accreditation project of the Committee on Professional Education. The U. S. Public Health Service and the Children's Bureau still stand behind the Merit System Unit. The former has provided the means through which the Association has been able to purchase expensive duplicating equipment, thus making the Unit's services more effective. It has also continued its support of the Vocational Counselling and Placement Service, now an important arm, organizationally, of the Merit System Unit with the vocational director serving both projects.

The W. K. Kellogg Foundation made available this year $15,000 for the first National Conference on Local Health Units held at Ann Arbor under the sponsorship of the Association through its Committee on Administrative Practice, the University of Michigan, and the Association of State and Territorial Health Officers. The W. K. Kellogg Foundation, too, financed a meeting of the Study Group on Sanitation, looking

toward the development of an evaluation schedule on environmental sanitation for general use by health units. To the Milbank Memorial Fund and the National Tuberculosis Association we owe acknowledgment for funds given to the Subcommittee on the Hygiene of Housing; to the American Drug Manufacturers Association for moneys which promote activities of the Subcommittee on Evaluation of Administrative Practices, and to our Sustaining Members whose names we have featured in the new Membership Directory.

Ear-marked funds for special purposes plus the income from dues of 1,620 Fellows, 8,752 members, 36 Sustaining members, 26 affiliated societies, subscription fees from another 3,000 non-member *Journal* readers, the Association's business services such as advertising and exhibit space, books, and pamphlets have given us sufficient income for the adequate discharge of our old and new commitments. We are operating on an assured budget of approximately $275,000, keeping our expenditures within it even in a year when anticipations of expenditures must be revised upward almost daily.

In acknowledging our appreciation for the substantial funds put at our disposal this year, I have named a number of the activities in which the Association has been engaged in 1946. The full record, embracing both old and new, is so diverse and comprehensive that all a report like this can hope to do, and remain within reasonable limits, is to summarize, interpret occasionally, and synthesize. In a field as broad as ours, where concern with every phase of public health is exercised by one or another of our nearly 200 organized groups, what is the process of selection and what the criterion of emphasis for the chronicler of the year's events?

Matters enter the blood stream of the Association through several avenues. One is via the Sections. Section activity is revealed through the Annual Meeting program, through published reports, papers, and books. A new volume coming from the Laboratory Section which will soon be exerting wide influence is the Ninth Edition of *Standard Methods for the Examination of Water and Sewage*, published in cooperation with the American Water Works Association. It is on the press and will be available this year. We credit Dr. John F. Norton's patience, skill, and ability for its completion. The Section expects to take action during the Annual Meeting upon the text for the Ninth Edition of *Standard Methods for Dairy Products*, representing a thorough revision of the earlier edition through the monumental efforts of Dr. Robert S. Breed and Dr. A. H. Robertson. After following the routines prescribed by the By-Laws for all standards to be issued in the name of the Association, the manuscript will be released to the Central Office for publication. The book will issue in 1947. In the discussion stage, and to be advanced by a session on the subject at the Annual Meeting, is a companion volume to *Diagnostic Procedures and Reagents*, on virus and rickettsial diseases.

The Dental Health Section is in sight of the goal toward which it has labored for two years—delivery of a set of manuscripts by some 18 qualified authors on the history, present status, and future of public health dentistry. The year's end will see the book completed. The Maternal and Child Health and School Health Sections have been exploring with their physician members the attitude toward the establishment of a qualification and examination by the American Board of Pediatrics, for pediatricians in public health. The Public Health Education Section has adopted regionalism as its keynote and is attempting to work out health education problems within the framework of

this philosophy. The Annual Meeting program, developed without wartime restrictions and accordingly more extensive than at any time in four years, and the contents of the *Journal* for the next several months will indicate other Section interests and accomplishments.

The Standing Committees initiate and carry on many of the activities in which we and they may well take pride. They have their own able spokesmen and their Chairmen will present detailed reports to the Governing Council for the first time in two years. I intend only to index for the record the important concerns of the Standing Committees, leaving it to their respective leaders to develop my chapter headings:

The Committee on Administrative Practice, Wilton L. Halverson, M.D., *Chairman:*

Studies of state and local health administration
The promotion of the evaluation process
Health Practice Indices
The Subcommittee on Medical Care
The first National Conference on Local Health Units
The evaluation of administrative practices
Accident prevention
Recipocral sanitary milk control

The Committee on Professional Education, William P. Shepard, M.D., *Chairman:*

The accreditation of schools of public health
The Merit System Unit
The Vocational Counselling and Placement Service
Salaries of public health workers
Educational qualifications of public health workers
A specialty board in public health

The Committee on Research and Standards, Kenneth F. Maxcy, M.D., *Chairman:*

The Standard Methods Committees
The Committee on Hygiene of Housing
Control of Communicable Diseases
Control of Air-borne Diseases

The Committee on Eligibility, Vlado A. Getting, M.D., *Chairman:*

Membership
Fellowship
Life Members
Affiliated Societies
Honorary Fellows

This is a calling of the roll of highly significant enterprises of which you will hear more from the Chairmen themselves.

Other of our activities have no structural or functional tie to any Section or any Standing Committee but cut across all organizational lines. There is, of course, the *Journal*. It has continued its series of special review articles started in 1945. In the 11 issues beginning with January, 1946, seven of these review articles have appeared. Three of them have dealt with relatively new scientific developments, Blood and Blood Derivatives, the Rh Factor, and the Position of DDT as an Insecticide; another summarized the school health services under governmental supervision in England and Wales. The *Journal* has kept its readers informed of the main developments in the World Health Organization. The November issue prints the W.H.O. Constitution in full and will carry the major address at the opening General Session of the Cleveland Annual Meeting by Dr. Parran and Dr. Boudreau which discusses the platform and purpose of the World Health Organization. Although the paper shortage still inhibits the *Journal* editors, each issue in 1946 has averaged twelve pages more than in 1945. The total circulation of the *Journal* remains at about 13,000, the cancellation of several hundred army subscriptions having been very largely made up by the increase in membership.

The authority and influence of the editorials by Professor C.-E. A. Winslow, the *Journal's* Editor, have been manifest in many ways. Requests have been widespread for permission to reprint Panic or Reason in Dealing with Poliomyelitis? in the August issue. Likewise, a Challenge to the Voluntary

Health Agency of October, 1945, continues to be widely read and discussed. The Association is indeed fortunate that in his retirement from the Yale Department of Public Health, Professor Winslow gives so freely of his talents of mind and pen to the *Journal* and the Association.

Made necessary by the increasing costs of publication, and amply justified by its increase in circulation, advertising rates in the *Journal* are about to be increased for the first time in 20 years. The *Journal's* circulation has increased by more than one-third in the past five years.

The work of the Committee on Constitution and By-laws, Dr. Edward S. Godfrey, Jr., *Chairman*, affects the entire Association in that it provides a sound basis upon which to build our organization. The committee, after two years of thoughtful study and examination, and with the approval of the Governing Council, is presenting at the Annual Meeting a revised Constitution and By-Laws. The document was published in the September *Journal* and the Fellows will vote upon the proposed amendments to the Constitution, and the Governing Council upon the proposed amendments to the By-laws. If they are accepted, we and individuals yet to share in the privileges and responsibilities of Association membership will be deeply in the debt of Dr. Godfrey and his committee members for a masterly recodification and clarification of a Constitution and By-laws which had become difficult of application and obscure as it was added to over the years in continuing attempts to democratize our procedures.

Other committees, like the Committee on Constitution and By-laws, are created by the Governing Council or the Executive Board for temporary or continuing purposes. A committee under the Chairmanship of Dr. George Baehr and including such outstanding scientists and administrators as Thomas Francis, M.D., Hugh R. Leavell, M.D., Robert F. Loeb, M.D., Karl F. Meyer, Ph.D., Thomas Parran, M.D., Alfred N. Richards, M.D., James S. Simmons, M.D., and Ernest L. Stebbins, M.D., was appointed to determine the persons and organizations who should be honored for scientific and administrative achievement by the bestowal of the Lasker Awards.

From a long list of candidates, many of whom were proposed by the Fellows of the Association, the following individuals have been selected and for the reason mentioned to receive a cash award of $1,000 and a statuette suitably inscribed:

Dr. Carl Ferdinand Cori—For research in the rôle of anterior pituitary, insulin and hexokinase in carbohydrate metabolism

Dr. Karl Landsteiner (posthumously),

Dr. Alexander S. Wiener and Dr. Philip Levine—For research in the Rh factor

Dr. John F. Mahoney—For research in the penicillin treatment of syphilis

Dr. Alfred Newton Richards—For organization and administration of the Committee on Medical Research of the Office of Scientific Research and Development

Dr. Fred L. Soper—For organization of eradication campaigns against yellow fever and malaria

The following groups have been cited for the reasons mentioned, the leader to receive on behalf of the group a statuette suitably inscribed:

The Army Epidemiological Board—For distinguished service in the control of infectious diseases, bringing a permanent enrichment to medical science

The Board for the Coordination of Malarial Studies—For accomplishments leading to a rational approach to the eventual solution of the malaria problem

The Bureau of Entomology and Plant Quarantine—In recognition of distinguished service in the solution of problems involving the health and comfort of the Armed Forces, with particular reference to insect-borne diseases

The National Institute of Health—In recognition of its fundamental contributions to the prevention and control of disease

The Northern Regional Research Laboratory—For studies leading to the mass production of penicillin

These Awards presented for the first time at the Cleveland Annual Meeting represent an expansion of the Association into a larger world. Public health is only just beginning to take note of the fact that future gains in national health and well-being must come in a new area, with a new group of persons, and with new techniques not yet crystallized. With infectious diseases of childhood and tuberculosis largely conquered, the new concern of public health is with the adult population—not only keeping it alive but, far more important, keeping its life active, socially useful, and personally rewarding. This is the significance of the Lasker Awards. The Association is indeed fortunate that the high purpose of its activities has inspired the Albert and Mary Lasker Foundation to make it the vehicle for a series of awards "to recognize achievement and to stimulate medical research, with special reference to those diseases which are the major causes of death."

Little that happens in the nation or in the world today concerned with public health escapes the Association's influence in one way or another. In the most important development of the year—the beginnings of the World Health Organization—two of the Association's Fellows represented the United States at the Technical Preparatory Commission in Paris in March. Eighteen Fellows and 22 Members were among the delegates, representatives, and advisers to the International Health Conference in New York, June 19 to July 23.

Dr. Thomas Parran was unanimously elected to serve as President of the Conference. The Conference adopted a constitution and provided for an Interim Health Commission until the World Health Organization should be fully organized.

The breadth of the Association's interests and the depth of its influence are a poignant reminder of the giants we have lost during the year—Mazÿck P. Ravenel, Milton J. Rosenau, and Waller S. Leathers. These three longtime practitioners and pioneers of public health and charter Fellows of the Association gave immeasurable service in making not only the Association the power that it is today but also in giving public health its current prestige. Dr. Ravenel brought the *Journal* to the status of a first class professional journal; Dr. Rosenau had two careers, each worthy of a lifetime, one in Harvard and one as the founder of the North Carolina School of Public Health; Dr. Leathers made a great contribution to medical education, and was adviser extraordinary to such agencies as the American Red Cross, the Commonwealth Fund, and many others. Each was elected President of the Association, but Dr. Rosenau did not live to serve his term. The war and the absence of an annual meeting in 1945 delayed by a year his elevation to the Presidency, to the great loss of the Association. Although there will be recognition of the passing of these three men in formal resolutions, I believe it fitting that our irreparable loss be recorded here as well.

We have said that happenings are significant only as they affect people. We do not always know how the things we are doing are influencing others, but not infrequently we have direct evidence of the impact practically of what we do academically. The *Evaluation Schedule* of the Committee on Administrative Practice, Dr. Halverson will tell you, is finding a wider acceptance and usefulness. Let me dramatize for you what this means with an illustration or two. Out in Kansas, where I'm told it's hard to get people to drink milk

and even harder to get it pasteurized, the Chamber of Commerce of a certain community became interested in the performance of its health department. A committee studied the *Evaluation Schedule* and found that the pasteurization of only 50 per cent of the community's milk supply brought it far down on the index scale for that activity. There resulted a community demand for a more extensive pasteurization program, a development the local health officer had attempted unsuccessfully through various other approaches.

Or consider a western city whose population more than quadrupled during the war production years, whose Negro population increased from two or three hundred to 15,000, and whose health department consequently found itself under the necessity of organizing to meet its expanded problems. An imaginative health educator used the *Evaluation Schedule* to teach the community about the self-evaluating process. Based on the *Schedule,* community committees set up an analysis of the health needs and resources out of which its present dynamic health program grew.

Another item that will be more fully discussed has to do with the extent to which the study and the basic principles of the Subcommittee on Local Health Units are affecting the philosophy and development of public health service. The framers of federal legislation have used its findings no less than the State Board of Health of Montana whose planning encompasses only about half a million persons. Such diverse national magazines as *Hygeia, The Survey,* and *Public Administration Review* have found this program germane to their separate interests.

Another example of the continuing services your Association renders to a wide and varied public may be found in the work of the Subcommittee on the Hygiene of Housing. There is widespread and growing recognition of its housing appraisal method as a practical means for evaluation of substandard housing conditions and as a sound basis for shaping remedial programs. Substantial surveys by this method have been carried out in a number of cities of the United States, as Dr. Maxcy will report, but its influence does not end at our borders. Housing in Panama is being surveyed on the basis of the appraisal method. The survey, together with a summary of the appraisal methods, is being published in Spanish for distribution in Latin America at the instance of the Association in coöperation with Science Service.

Finally, for the sake of the future historian who will wonder how the Association took care of its elections and other legalities prescribed by its Constitution and By-laws in a year without an Annual Meeting—as 1945 was—and for which we had no precedent, it should be recorded here that the Executive Board invoked Article IV of the Constitution which provides that "all officers shall serve until their successors are elected and qualified." This action held in office all elected and appointed persons whose terms would otherwise have expired in 1945. On the recommendation of the Committee on Constitution and By-laws, made after obtaining legal counsel, all offices which would have been vacated ordinarily in 1945 are vacated this year, making it necessary for the Fellows present and voting at the Cleveland Annual Meeting to elect 20 instead of 10 members of the Governing Council, 10 with terms expiring in 1948 and 10 with terms expiring in 1949. Under this decision there are 4 instead of 2 vacancies on the Executive Board to be filled. The Section Councils, the Committee on Eligibility, and terms of members of Standing Committees are similarly affected. This is a year in which twice the usual number of elections and ap-

pointments must be made. Both a President and a President-elect must be elected this year. Other responsibilities which must be carried out during the Annual Meeting bulk larger than in any previous year. The Committee on Eligibility will report on 216 applications for Fellowship—nearly 100 more than ever before—and 79 applications for Life Membership. Again the added responsibilities of the Central Office must be referred to—in connection with Fellowship applications more than 600 individual pieces of correspondence are in the files representing replies from references, and this checking of credentials is only a small part of the process.

To complete the story for the historian, let us say that for the first time we are using a voting machine for the election of members to the Governing Council instead of the familiar written ballots.

The future of our community is replete with immediate possibilities for usefulness. Our problem as an Association is no longer money, as it once was, but personnel and space. We have arrived at the stage where selection is the important thing—selection from among many things offered us for sponsorship. There are at least two large projects in new fields awaiting our decision at this moment, and there will be more before the year's end. In its 75th year, it may be said that the Association has just begun to roll and so have the public health professions which we represent. And as always it must be emphasized that "prime movers" are required to operate any machinery. Not the least of these are the Executive Secretary and his staff, to whom the entire membership owes a continuing debt for enthusiasm, intelligence, and efficiency.

ABEL WOLMAN, DR.ENG.

Public Health Degrees and Certificates Granted in the United States and Canada During the Academic Year, 1945–1946*

THE Committee on Professional Education presents its annual report of Public Health Degrees and Certificates Granted in the Academic Year, 1945–1946. In the current report all tabular data except two 5 year summaries are omitted. This is purely experimental to determine the demand for the material. Tables such as those published in previous years have been prepared and are available in mimeograph form on request from the offices of the Association. If the demand for them warrants it, they will again be published in the *Journal* in future years. There will be no lack of continuity in the data available for comparative purposes.

As formerly, the present report is based on returns from a questionnaire sent to the administrative officers of the schools offering graduate degrees. Their replies have been subjected only to statistical review. Only graduate students enrolled in courses leading to graduate degrees or certificates are included in the tabulation. Exceptions are public health nursing students, among whom are included those receiving Baccalaureate degrees or certificates in public health nursing. For figures on public health nursing students and degrees, the committee is indebted to the National Organization for Public Health Nursing, which has permitted their use in this report.

The report is based on 27 schools giving either or both public health and public health engineering degrees and 32 of 34 schools giving approved courses in public health nursing.

The first significant fact suggested by the reports of the academic year just passed is the continuing increase in both enrollments and degrees granted. The percentage increase is most marked among public health engineering, and least among public health nursing students. Enrollment of public health and public health engineering students together increased by more than a third over the previous year, a little less than one-third for the former, more than one-half for the latter. Since the low of 1942–1943 there has been an increase of nearly 90 per cent in enrollments (Table 1). Enrollment in graduate public health nursing courses is not reported.

The number of all students receiving degrees has increased by more than one-fifth since last year, nearly one-third for public health, two-thirds for public health engineering, and less than one-fifth for public health nursing students. Since the low point, both public health and public health engineering degrees have more than doubled. Public health nursing degrees on the other hand increased only one-third since the low point in 1941–1942, which was a

* For previous reports see *A.J.P.H.*, Vol. 35, p. 1311; Vol. 34, p. 1264; Vol. 33, p. 1430; Vol. 32, p. 1360; Vol. 31, p. 1306; Vol. 30, p. 1456; Vol. 29, p. 1338; Vol. 28, p. 863; Vol. 27, p. 1267; Vol. 26, p. 819; Vol. 25, p. 341; Vol. 23, p. 1124.

TABLE 1—ENROLLMENT IN GRADUATE PUBLIC HEALTH COURSES AND STUDENTS RECEIVING GRADUATE DEGREES OR CERTIFICATES, FIVE YEAR SUMMARY, 1941–1946

	Enrollment			*Students Receiving Degrees or Certificates*			
Academic Year	*Total*	*Public Health*	*Public Health Engineering*	*Total*	*Public Health*	*Public Health Engineering*	*Public Health Nursing*
Total	2,746	2,254	492	5,925	1,258	249	4,418
1941–1942	629	466	163	1,077	269	89	719
1942–1943	387	323	64	1,057	159	24	874
1943–1944	460	396	64	1,119	207	35	877
1944–1945	540	462	78	1,204	270	38	896
1945–1946	730	607	123	1,468	353	63	1,052

year earlier than the low point for the other two groups.

It may be concluded, therefore, that the arrears in training piled up during the war years are beginning to be made up. In each group except engineering more degrees were granted in 1945–1946, than in any of the last six years.

As in previous years the professional background of the graduate students enrolled in public health courses was reported. Physicians numbered 244, or two-fifths of the total, public health educators, 176, or less than 30 per cent. Each group is a larger percentage of the total than in the previous year.

The number of Master of Public Health degrees granted increased by more than one-half, due perhaps to the accreditation program which advises discontinuing the use of the M.S.P.H. degree. The number receiving the

TABLE 2—STUDENTS RECEIVING GRADUATE DEGREES OR CERTIFICATES—SUMMARY, 5 YEAR PERIOD, 1942–1946

Degree or Certificate	*Total*	*1941–42*	*1942–43*	*1943–44*	*1944–45*	*1945–46*
Total	5,925	1,077	1,057	1,119	1,204	1,468
Doctor of Public Health	40	12	7	10	8	3
Doctor of Engineering	5	2	1	2	..	..
Doctor of Science	24	17	1	3	..	3
Doctor of Philosophy	22	9	2	3	4	4
Master of Public Health	691	151	83	101	140	216
Master of Civil Engineering	16	6	3	5	1	1
Master of Science	118	28	13	29	17	31
Master of Science, Public Health	261	73	19	45	68	56
Master of Science, Public Health Engineering	11	2	1	4	..	4
Master of Science, Sanitary Engineering	23	4	2	1	..	16
Master of Science, Civil Engineering	4	2	..	..	1	1
Master of Arts	7	1	..	3	3	..
Master of Arts in Science	7	3	1	..	..	3
Master of Sanitary Science	36	..	..	..	18	18
Master's Degree (Nurses)	276	22	43	43	32	136
Diploma, Public Health	113	19	20	18	22	34
Diploma, Veterinary Public Health	10	..	..	..	6	4
Baccalaureate Degree (Nurses)	1,785	215	388	361	392	429
Certificate, Public Health	29	4	14	5	2	4
Certificate, Medical Technology	52	..	14	12	14	12
Certificate, Public Health Nursing	2,355	482	443	472	472	486
Other	40	25 [a]	2 [b]	2 [c]	4 [d]	7 [e]

[a] Includes 24 certificates in Engineering Science and Management Defense Training and one Master of Science in Engineering

[b] Includes two Civil Engineers

[c] Includes one each of Doctor of Public Health Nursing and Master of Science in Preventive Medicine and Public Health

[d] Includes one each of Master of Science in Hygiene and Diploma of Industrial Hygiene and two Diplomas in Dental Public Health

[e] Includes one Doctor of Public Health in Nursing, two each of Master of Science in Hygiene and one each of Sanitary Engineer and Diploma in Industrial Health

latter degree decreased nearly one-fifth and was important in only one school. A further noteworthy development is indicated by the fact that the number receiving Masters degrees in Public Health Nursing was three times as large as in any previous year, while the number receiving the Baccalaureate degree or Certificate in Public Health Nursing increased only slightly (Table 2).

A word about the number of schools offering graduate public health or public health engineering courses. Twenty-seven schools reported offering such degrees. Of these, 3 had no students registered, 8 had fewer than 5 students, and 14 fewer than 10 students. Thus 669 of the 730 enrolled students were provided for in 10 schools. Of the 416 students receiving degrees in 20 schools, 381 were in 9 schools giving degrees to from 13 to 114 students. The remaining 35 degrees were granted by 11 schools. Among the nursing schools only two granted degrees to fewer than 10 students.

WILLIAM P. SHEPARD, M.D., *Chairman*

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THE CLEVELAND MEETING

THE seventy-fourth Annual Meeting of the American Public Health Association at Cleveland (November 12–14) was one of the most successful in its history. The registration of over thirty-three hundred was the largest recorded for any regular annual meeting held outside New York City. The first General Session was the occasion of an important address by Dr. F. G. Boudreau on the World Health Organization; of the new Lasker awards (discussed in the December issue of this *Journal*); and of the award of the Sedgwick Memorial Medal "For Distinguished Service in Public Health" to Dr. Karl F. Meyer of San Francisco. The highlight of the Banquet was the announcement of the approval of the amended Constitution and of the choice of Professor Harry S. Mustard as President for 1946–1947 and of Dr. Martha M. Eliot as President-elect for 1947–1948. Dr. Mustard's outstanding leadership as an expert in public health administration and as Director of the School of Public Health at Columbia makes him a fitting link in the long chain which carries us back to the days of Stephen Smith; and the selection of Dr. Eliot (the first woman to hold this high office) is an appropriate tribute, not only to a courageous and statesmanlike personality but to the constructive impetus which the U. S. Children's Bureau has given to the cause of public health.

The program of the conference was enriched by a wealth of important technical papers which will be presented in the columns of this *Journal* during succeeding months. Methods for the isolation of the gonococcus, and for the laboratory study of virus diseases, procedures for the disinfection of air, the neutralization of poliomyelitis virus by the serum of patients and contacts, the relation (or lack of relation) between infectious hepatitis and homologous serum jaundice, the importance of the Rh factor, the values of BCG, the sterilization of eating utensils, and the importance of a regional approach in health education were among the specific subjects discussed. Lloyd Florio reported important results on the etiology of Colorado tick fever. Striking data were presented on the effects of acute nutritional deficiency. Many valuable contributions were made in public health engineering, vital statistics, and industrial hygiene. Our youngest Section, dealing with dental health, had an extensive and effective program.

Sessions of the Health Officers Section were particularly stimulating. This group came to grips with such vital administrative problems as the methods of allotting state and federal funds to local units and the program audit, a new device for guiding wisely the expenditure of such funds. Discussion from the floor was active and constructive; and, as at other recent annual meetings, the participation of increasing numbers of keen young health officers was a most heartening phenomenon. W. P. Shepard and R. M. Atwater, however, sounded a note of warning for the future in a paper on "The Key to Better Public Health Service," said key being the establishment of more adequate salary scales in state and local health departments.

The interest of the profession in the newer challenges to the health officer of the future was registered in special sessions devoted to Medical Care, to Housing, and to Problems of an Aging Population. In all these areas we are passing from academic discussions of what ought to be done to scientific analysis of what is being done. In medical service to the indigent, the Maryland State Health Department plan is a going concern; and the symposium on housing brought convincing evidence of the value of the A.P.H.A. procedure for evaluation of substandard housing as applied on a large scale in Los Angeles and Milwaukee.

In some ways the most impressive session of all was a Special Session, on the last day, devoted to the actual service projects now being carried forward by the Association itself through its standing committees and staff. Few of our younger members have realized the full extent of such activities. At Cleveland, they learned how the Committee on Eligibility (under Vlado Getting) safeguards the professional standing of the Fellowship of the Association. They heard of the remarkable achievements of the Committee on Administrative Practice (under W. L. Halverson); and, particularly, of the reports of Subcommittees (both led by Haven Emerson) on Local Health Units and on Communicable Diseases. The Health Unit Program is making notable progress throughout the country, seventeen new local full-time health jurisdictions having recently been authorized in one election in the State of Illinois; and the report on the *Control of Communicable Diseases* has been translated throughout the world and formally adopted as standard in many countries. The Committee on Research and Standards (K. F. Maxcy, Chairman), through the Laboratory Section, has completed a new edition of *Standard Methods for the Examination of Water and Sewage* and will shortly have ready a new edition of *Standard Methods for Dairy Products*. Its Subcommittee on the Hygiene of Housing hopes to complete in 1947 a four volume manual on the essential features of sound and healthful housing. The Committee on Professional Education (W. P. Shepard, Chairman) is continuing its invaluable formulations of qualifications for various types of public health personnel, and has established a continuing program of accreditation for schools of public health. The Merit System Unit has had phenomenal success in developing sound procedures for the grading of applicants for various positions in public health, now already in use in half the states of the Union.

In all these activities the staff of the Association, which has been greatly strengthened in recent years, is playing a constructive and ever-increasing part.

All in all, no one could attend the meetings in Cleveland without a growing pride in being a part of an organization which is so fully and effectively fulfilling its responsibilities as the official representative of the profession which has the health of the American people in its charge.

PUBLIC HEALTH AS SEEN BY ENGLISH EYES

ON the way back from Cleveland the editor was interested to look over the proceedings of the Health Congress at Blackpool, held under the auspices of the Royal Sanitary Institute last June. The convention techniques of Great Britain and the United States are widely different. The Cleveland program scheduled over 220 papers and symposia for a period of three days; the Blackpool program, about 35 papers in five days. We encourage a wide range of communications which present the details of new scientific papers and provide a wonderful opportunity for the younger men to try their wings. The British plan presents only a few addresses by outstanding leaders and allows ample leisure for tea and excursions and leisurely social contact. Each type of procedure is an expression of national psychology.

Even more interesting, perhaps, is the difference in fields of interest illustrated by the two conventions. At Cleveland the overwhelming mass of contributions dealt with technical problems in the established fields of laboratory procedure, epidemiology, sanitation, vital statistics, health education, maternal and child health, school health, and industrial hygiene. At Blackpool, only 12 addresses fell within this field, about 37 per cent of all papers presented, as compared with 86 per cent of all papers presented at Cleveland. Problems primarily of interest from the standpoint of public health administration occupied 8 per cent of the American, and 15 per cent of the British program. Nutrition accounted for 5 per cent of the American and 9 per cent of the British papers; hospitalization and medical care for 2 per cent of the American and 6 per cent of the British program; housing and heating and ventilation for half of one per cent of the American and 21 per cent of the British program. The Cleveland convention had 7 papers on dental hygiene, the Blackpool program none; the Blackpool meeting had 3 papers on veterinary medicine, and 1 on traffic control, the Cleveland meeting, none.

Perhaps such an analysis may seem trifling. It certainly will not bear the weight of a statistician's analysis of probable error.

It does, however, suggest two thoughts to the writer. The first of these reactions is a deep pride in the great mass of solid and significant scientific research which is coming from the health services and the universities of North America to form the sure basis for our technical progress in the future. The second question raised is whether we do not need to add to our encouraging process in the basic microbiological, epidemiological, statistical, and engineering foundations of public health a wider vision of its social applications in the future. The organization of the nursery school; the rehabilitation of problem families; aspects of heat, light, and sound in relation to town planning; the care of the aged in health and sickness; roads and traffic problems; housing and slum clearance; and even "Form and Color in Landscape" were among the subjects discussed by our English brethren. It seems probable that our Association in future years may devote a larger proportion of its time to such problems, in regard to which the expert on physiological and psychological health has a vital contribution to make.

THE IMPORTANCE OF CONTROLS IN PUBLIC HEALTH FIELD STUDIES

NO competent investigator conducts experiments in the laboratory without providing for adequate controls, since the very essence of experimental

research involves the elimination of all but a single variable in the complex chain of biological processes. In statistical research the same end can often be attained by application of the techniques of multiple correlation. In field studies made with regard to the value of an immunization procedure, or the importance of a particular dietary factor, or the influence of an air-conditioning process, the setting-up of effective controls is more difficult and the lack of such controls invalidates many time-consuming studies. The demonstration of the value of influenza vaccine by Army investigators is an example of a study in which proper controls were used.[1] A recent report on the influence of vitamin supplementation on nutritional status of aircraft workers in California[2] is another excellent example of sound scientific method.

This investigation covered about 500 young male subjects and lasted for about one year. All the volunteers who took part were given a very thorough physical examination—with special emphasis on the delicate modern tests for vitamin deficiency—at the beginning and at the end of the observation period. During this period each subject was given tablets and capsules on five days of each week; but these tablets in the case of one-half the subjects (supplemented group) contained suitable amounts of calcium and of six vitamins; while the other half (placebo control group) received only inert placebos. A third group of workers who received no medication were used as a normal control group. All three groups were closely comparable as regards age, duration of employment, and type of work. No case of severe nutritional deficiency was present in any group but a majority of the subjects had evidence of chronic, mild nutritional deficiency by various special criteria which have been suggested as significant.

Most of the tests thus far advanced for the detection of mild symptoms of dietary deficiency showed no significant difference between the experimental and placebo groups. This was true of abnormalities in reflexes, calf muscle tenderness, plantar dysesthesia, loss of vibratory sensibility to a C-256 tuning fork, thresholds of vibratory sensibility and paresthesias as test of thiamin deficiency; of cheilosis, angular stomatitis, sebaceous plugs, seborrheic dermatitis and corneal vascularization observed with the biomicroscope; and for hematological effects of vitamin mineral deficiency.

Of all the clinical tests employed only three yielded significant differences. Conjunctival opacity as observed with the biomicroscope showed a small but significantly better rating for the experimental group which had received vitamin A; there was a significantly lower prevalence of dryness of hair and a lower prevalence and less extensive follicular hyperkeratosis in the experimental group (due again to higher level of vitamin A); and there was lower incidence of mild degrees of abnormal thickness, abnormal color, and hypertrophied papillae of the tongue (due to supply of vitamin B complex).

The actual incidence of colds was essentially the same for all three groups, although both the experimental and placebo subjects *reported* that they had had fewer colds than in years before, while the normal controls did not. Both experimental and placebo groups reported that their appetites had been improved. In the placebo group, about 70 per cent reported improvement in one or more symptoms which they attributed to the "pills" they had been taking. "It was concluded that this difference in subjective impression between the two experimental groups on the one hand and the control group on the other was a psychotherapeutic effect of participation in the experiment." A larger number of the

placebo than of the vitamin group reported benefits with respect to eye symptoms, weight gain, and miscellaneous conditions. A larger number of the vitamin group reported benefits in colds, appetite, feeling of well-being, less nervousness, less headaches, less constipation, and improved digestion. Only in the case of nervousness was even the difference in subjective opinion statistically significant (7.4 per cent for vitamin group, 1.3 per cent for the placebo group).

These studies should be of material value to the student of nutrition in indicating which tests of nutritional deficiency are really promising. It is clear that with regard to most of the criteria studied, either the tests fail to distinguish between good and bad nutrition or the nutrition of the average warcraft worker in California is adequate. (Some of these tests might, of course, be of value in the study of less well nourished populations.)

The investigation is significant to all of us as a model of the type of thorough and well controlled experiments which can be carried on in many other fields of public health.

REFERENCES

1. *A.J.P.H.*, 36:1045 (Sept.), 1946.
2. Borsook, H., Dubnoff, J. W., Keighley, G., and Wiehl, D. G. *Milbank Memorial Fund Quarterly*, 24:99 (April), 1946.

CONSTITUTION AND BY-LAWS

As Adopted at the Seventy-Fourth Annual Meeting, November 13, 1946

ARTICLE I NAME

The name of this Association, incorporated under the laws of Massachusetts, is the American Public Health Association.

ARTICLE II OBJECT

The object of this Association is to protect and promote public and personal health.

ARTICLE III MEMBERSHIP

Section 1. There shall be seven classes of constituents to be designated as Fellows, Honorary Fellows, Members, Sustaining Members, Life Members, Affiliated Societies, and Regional Branches.

Section 2. The right to hold office, except the office of Vice-President, or to serve as a member of the Governing Council, the Executive Board, or of a Section Council, or of a standing committee, or as the chairman of a committee of the Association or of a Section, or to vote for elective Councilors or on any amendment to the Constitution shall be limited to Fellows and to Life Members and Honorary Fellows who have been elected Fellows of the Association.

Section 3. The qualifications of the several classes of constituents, and the dues of each of them, the manner of their election, and their rights and privileges, except as specified in this Constitution, shall be established in the By-Laws.

ARTICLE IV GOVERNING COUNCIL COMPOSITION

Section 1. There shall be a Governing Council which shall consist of:

(a) The officers of the Association and the elective members of the Executive Board.

(b) The Chairman, Vice-Chairman, and Secretary of each Section, and the elective members of the Council of the Health Officers Section.

(c) One representative to be designated by each Affiliated Society.

(d) One representative to be designated by each Regional Branch.

(e) Thirty members of the Council, to be elected by the Fellowship of the Association, for three-year terms, one-third of whose terms shall expire each year. Such members of the Council shall be known as elective Councilors and shall be nominated and elected as provided for in the By-Laws. If an elective Councilor is elected a Section Chairman, Vice-Chairman, or Secretary, or an elective member of the Council of the Health Officers Section, or appointed the representative of an Affiliated Society, or of a Regional Branch, a Councilor to fill such vacancy shall be elected by the Governing Council. All vacancies while in office shall be filled by election for the unexpired term. After two consecutive terms, an elective Councilor shall be ineligible for reëlection to the Council during one Association year.

Section 2. The terms of all Councilors, except the representatives of Affiliated Societies and Regional Branches, shall begin at the end of the annual meeting at which they are elected, and shall terminate at the end of the annual meeting at which their respective terms expire; provided that newly elected Councilors shall have the right to attend meetings of the Council in an advisory capacity as soon as elected.

The terms of the representatives of Affiliated Societies and Regional Branches shall begin and terminate in accordance with the constitutions and by-laws of their respective organizations.

Section 3. The Officers of the Association shall be the Officers of the Council.

Section 4. A Quorum of the Council shall consist of twenty Councilors.

Section 5. Meetings of the Council shall be called by the Executive Secretary at the request of the President, or at the request in writing of any twelve Councilors. In the latter case, the call to the meeting shall be issued at least twenty days in advance of the meeting and shall state the purpose for which it is called.

ARTICLE V GOVERNING COUNCIL FUNCTIONS

The functions of the Governing Council shall be:

Section 1. To establish and amend the By-Laws of the Association.

Section 2. To establish policies for the Association and for the guidance of the Executive Board and the Officers.

Section 3. To consider all resolutions proposed for approval in the name of the Association, and to receive and act upon a report from a committee on resolutions appointed annually by the President.

Section 4. To approve all standards

promulgated in the name of the Association.

Section 5. To receive at its first session at the time and place of the annual meeting of the Association, a report from the Chairman of the Executive Board in which the work, the accomplishments, and the financial status of the Association during the year preceding such annual meeting shall be reviewed and a statement made of the major activities contemplated for the ensuing year.

Section 6. To establish Sections of the Association; to combine or discontinue them when necessary; to prescribe the qualifications of the members of Section Councils and the chairmen of section committees; to maintain coördination among Sections; and to formulate general rules governing their policies.

Section 7. To elect the Executive Board, the officers of the Association, with the exception of the Chairman of the Executive Board and the Executive Secretary, to elect Fellows, Honorary Fellows, Life Members, and Affiliated Societies, and to establish Regional Branches.

Section 8. To publish after each of its meetings an abstract of the minutes of such meeting.

ARTICLE VI Officers

The officers of this Association shall be a President, a President-elect, three Vice-Presidents, an Executive Secretary, a Treasurer, and the Chairman of the Executive Board. The officers, with the exception of the Chairman of the Executive Board and the Executive Secretary, shall be elected by written ballot of the Governing Council as provided in this article and in the By-laws. The President-elect shall serve as such from the close of the annual meeting at which he was elected to the close of the next annual meeting, when he shall automatically become President. As President he shall serve to the close of the next succeeding annual meeting. However, in case of the inability of the President to complete his term for any reason, the President-elect shall at once succeed to the duties of President, filling the unexpired term of his predecessor and his own term consecutively. Other officers, except the Chairman of the Executive Board and the Executive Secretary, shall serve from the close of the annual meeting when elected until the close of the next annual meeting, and all officers shall serve in any case until their successors are elected and qualified. A majority vote of the Councilors voting shall be required to elect, and if no candidate receives a majority vote on the first ballot, the candidate receiving the smallest number of votes shall be dropped after each ballot in succession until a majority vote is obtained. The Chairman of the Executive Board and the Executive Secretary shall be elected by the Executive Board, which Board shall define the duties and authority of these officers, respectively.

ARTICLE VII Executive Board

Section 1. There shall be an Executive Board, consisting of the President, the President-elect, the Treasurer, and six members, to be known as the Elective Members, elected for terms of three years each by the Governing Council. The Elective Members shall be at the time of their election past or present members of the Governing Council. The terms of the Elective Members shall begin at the close of the annual meeting at which they are elected and terminate at the end of the annual meeting at the expiration of their respective terms. The terms of two Elective Members shall expire each year in rotation.

Section 2. Acceptance of membership on the Executive Board shall terminate any appointment such Fellow may hold on any of the standing committees of the Association.

Section 3. It shall be the duty of the Executive Board to direct the administrative work of the Association; to act as the Trustee of the Association's properties; to elect the Members and Sustaining Members; and in general to carry out the policies of the Governing Council between meetings of the latter.

It may designate an Assistant Treasurer whose powers shall be limited to the disbursement of funds in accordance with duly authorized budgets for the ordinary conduct of Association business. Such power shall be exercised only during a period when, in the opinion of the Board, an emergency is created due to the absence or disability of the Treasurer. Such Assistant Treasurer may be a Fellow or a corporate fiduciary institution.

In the event of a vacancy in the office of Treasurer, the Executive Board shall have power to elect a Fellow to serve as Treasurer for the unexpired term.

It shall have such further powers and duties as may be prescribed in the By-Laws.

Section 4. A Quorum of the Executive Board shall consist of five members.

ARTICLE VIII Amendments

This Constitution may be amended by a two-thirds vote of the Fellows of the Association present and voting at an annual meeting, provided that the specific amendment to be acted upon is published in the official publication of the Association not less than thirty days prior to the meeting, and provided further that the amendment receives the approval of the Governing Council.

BY-LAWS

ARTICLE I FELLOWS

Section 1. Professional health workers who have been members of the Association for at least two years, and who are of established professional standing in the field of public health (whether employed by public or private organizations or in independent private practice) shall be eligible for election as Fellows, provided that the applicant shall have reached his thirtieth birthday at the time application for Fellowship is made and subject to the further conditions of this Article.

Section 2. The following persons shall be considered to have an established professional standing in public health for this purpose:

(a) A person who has rendered acceptable service for two or more years in a responsible public health position and who has been awarded in course a degree of Doctor of Public Health, Doctor of Science in Public Health, Doctor of Philosophy in Public Health, Doctor of Medicine with at least one year of graduate study in public health in a university, Master of Public Health, Diploma in Public Health or other equivalent degrees, according to standards approved by the Executive Board of the American Public Health Association.

(b) A person who has been awarded in course an academic or professional degree involving training in public health and who has been regularly engaged in health work for at least five years, having rendered meritorious service as a health officer or in responsible charge of work in either a public or private health agency.

(c) A person who has done notable original work in public health or preventive medicine of a character to give him a recognized standing.

(d) A person regularly engaged in health work for at least five years, who has given evidence of special proficiency, who has attained a recognized standing.

(e) A teacher of public health or one of its constituent sciences who has attained distinction as an expounder of the principles of public health or its constituent sciences. Such a teacher shall have had at least five years' experience as a teacher of public health subjects. Any years of experience as defined in paragraphs (b) and (d) that the applicant may have had shall be considered the equivalent of the same number of years' experience as a "teacher."

(f) A person not covered by the above, who has made substantial contributions to public health work in his chosen branch and who has attained a recognized professional standing.

Section 3. Every application for Fellowship shall be made on an approved form and shall be sponsored by two Fellows of the Association who shall be Fellows of the Section with which affiliation is desired, provided, however, that when affiliation with a Section is not desired, the sponsors may be any two Fellows in good standing in the Association. Fellows without Section affiliation shall be known as unaffiliated Fellows.

Section 4.

(a) When an application has been duly sponsored and otherwise completed, it shall be transmitted to the Administrative Office of the Association, which shall make note thereon of such knowledge as it may have concerning the standing of the applicant in the Association. The application shall be forwarded by the Administrative Office to the Secretary of the Section in which affiliation is desired for the action of the Section Council, and, when acted upon by the Section Council, he shall return it to the Administrative Office after he shall have endorsed thereon the action of the Section Council. When the application is for unaffiliated Fellowship, the Executive Board of the Association shall act in place of the Section Council. To be eligible for election, individuals applying for Fellowship under the provisions of subsections (a) and (b) of Section 2 of this Article shall require for approval a majority vote of the Section Council or the Executive Board. All other applicants shall require for approval a two-thirds vote of such Section Council or the Executive Board.

(b) When the application has been approved by the Section Council or the Executive Board, as above provided, it shall be voted upon by the Committee on Eligibility. Applications requiring a majority vote of the Section Council or Executive Board shall require for approval a majority vote of the Committee on Eligibility. All other applications shall require unanimous approval of the Committee on Eligibility. If approved, as above specified, and provided the name of

the applicant shall have been officially published at least fifteen days in advance, the application shall be voted upon by the Governing Council, and if approved by three-fourths of the vote cast, the applicant shall be declared elected a Fellow.

Section 5.

(a) A Fellow may belong to and vote in only one Section, but such affiliation may be transferred to another Section if approved by vote of a majority of the Council of the latter Section. Unaffiliated Fellows may become affiliated with a Section if approved by vote of a majority of the Council of the Section with which affiliation is desired.

(b) Fellows shall have all the rights and privileges provided for Members in addition to those specifically reserved to them by the Constitution and By-Laws.

Section 6. Honorary Fellows may be elected by a three-fourths vote of the Governing Council for distinguished service in public health. Honorary Fellowship shall not confer voting power but Honorary Fellows who have previously been Fellows of the Association shall retain all the privileges of Fellowship.

ARTICLE II MEMBERS

Section 1. Persons professionally engaged or interested in public health work shall be eligible for election as members by a three-fourths vote cast by the Executive Board when sponsored by two members or Fellows and after approval by the Committee on Eligibility. They shall be entitled to receive the official journal of the Association, to vote for the officers and members of the Council of the Section with which they are affiliated, and upon all motions and resolutions coming before such Section, to participate generally in its proceedings and to serve on committees, except as provided in the Constitution and By-Laws. A member may belong to and vote in only one Section, but such affiliation may be transferred to another Section if approved by vote of a majority of the Council of the Section to which change is desired. Unaffiliated members may become affiliated with a Section if approved by vote of a majority of the Council of the Section with which affiliation is desired.

Section 2. Individuals or corporations interested in public health may be elected to Sustaining Membership by a three-fourths vote of the Executive Board. Sustaining Members shall be entitled to receive the journal and such other publications of the Association as the Executive Board may designate.

Section 3. Upon the recommendation of the Committee on Eligibility, any individual member or Fellow of the Association may be elected a member for life. The dues for Life Members shall be $100.00, payable within one year after election. Election to this grade shall not affect the privileges held by such an individual as a regularly elected Member or Fellow.

ARTICLE III AFFILIATED SOCIETIES

Section 1. A state or provincial public health association or similar regional society including more or less than a state, primarily composed of professional public health workers and organized for the same general objects as the American Public Health Association, may be elected by a three-fourths vote of the Governing Council as an Affiliated Society, provided that not less than twenty of its active members and at least one-half of its active members are members or Fellows of the American Public Health Association. Not more than one such society shall be admitted from the same area.

Section 2. A society applying for affiliation shall submit a copy of its constitution and by-laws, its last annual budget, a roster of its members, and such other evidences of its qualifications as may be required. It shall submit annually and at other times such reports on its financial standing, membership, and other matters as may be required by the Executive Board of the American Public Health Association.

Section 3. The Committee on Eligibility shall consider all applications for affiliation and report its recommendations to the Governing Council.

ARTICLE IV DUES

Section 1. Honorary Fellows and Life Members shall be exempt from the payment of annual dues. The dues of all other constituents are payable annually in advance.

Section 2. The dues for Members shall be $5.00, for Fellows $10.00, and for Sustaining Members $100.00 or more.

Section 3. The dues for Affiliated Societies shall be one per cent of their gross annual income, provided that the minimum dues per society shall be $10.00 per year, and provided further that for every Fellow or Member paying annual dues to the American Public Health Association, the Association shall remit to the Affiliated Society of which such person is a member the sum of $1.00 per annum.

ARTICLE V DISCONTINUANCE OF MEMBERSHIP

Section 1. Constituents of any class whose

dues are unpaid for six months or more shall be considered not in good standing. Constituents not in good standing shall not be entitled to any of the privileges or powers of membership, Fellowship, or affiliation. Good standing may be resumed upon the payment of all arrears and dues in advance for one year, provided the lapsed period is not greater than one year. The Administrative Office shall notify by registered mail all constituents who have been in arrears for a period of eleven months. The names of constituents in any class whose dues remain unpaid for one year or more and who have been duly notified as above provided shall be presented to the Executive Board which shall order the names of such constituents stricken from the membership roll. Constituents whose names have been stricken from the rolls in this manner may be again admitted in the manner provided for the election of new constituents in the class for which they make application, provided such person or organization complies with the eligibility requirements at the time the new application is made.

Section 2. If, in the opinion of the Executive Board, any member or Fellow of the Association permits the use of his name, or otherwise allows himself to be quoted or used for illustration in the advertising of a commercial product, in such a manner as to reflect discredit upon the Association, his Fellowship or membership in the Association shall thereupon be terminated.

Section 3. Upon the recommendation of the Committee on Eligibility the Governing Council may discontinue the membership, Fellowship or affiliation of any constituent. Three-fourths of the votes cast shall be necessary for such action.

ARTICLE VI PUBLICATIONS

Section 1. All publications of the Association and of its Sections shall be issued under the direction of the Executive Board.

Section 2. *The American Journal of Public Health* shall be the official journal of the Association. The Executive Board shall appoint a Managing Editor of the official journal and an Editorial Board of not less than five members to serve at the pleasure of the Executive Board. All papers and reports for the annual meetings are to be accepted with the understanding that they shall be the property of the Association for publication, unless this right is waived by the Managing Editor.

ARTICLE VII ELECTIVE COUNCILORS

Section 1. The Elective Members of the Governing Council shall be nominated and elected as follows:

There shall be a Nominating Committee composed of one Fellow elected by each Section at the preceding annual meeting, and an additional Fellow designated by the Executive Board, the latter serving as Chairman.

This committee shall present to the Administrative Office at least two months before the next annual meeting the names of at least twenty and not more than thirty Fellows of the Association selected with due regard to geographical and membership considerations as nominees for the Governing Council.

Upon the petition of twenty-five Fellows the Nominating Committee shall add the name of any Fellow to the nominees selected by it, provided such petition is received not less than fifteen days before the annual meeting.

Section 2. The Administrative Office shall publish to the membership not less than thirty days prior to the annual meeting the nominees selected by the Nominating Committee. Prior to the annual meeting it shall prepare ballots upon which the names of all nominees shall appear in order determined by lot and one such ballot shall be handed to each Fellow entitled to vote at the annual meeting upon his signing a receipt therefor.

Section 3. The polls for the reception of ballots shall be open at 9 A.M. on the first day of the annual meeting and shall close at a time to be determined each year by the Executive Board prior to the opening of the polls.

Section 4. The Fellows receiving the highest number of votes on a written ballot cast by the Fellows present and voting at the annual meeting shall be declared elected to fill existing vacancies. Should two or more candidates receive the same number of votes, the Governing Council shall, when necessary, determine by written ballot the order of precedence of such candidates.

ARTICLE VIII EXECUTIVE BOARD

Section 1. The Executive Board shall elect from its own membership a Chairman who shall serve in that capacity for such term as the Executive Board shall determine. It shall also designate such other officers of the Board as it may require for the conduct of its business.

Section 2. If a vacancy among the Elective Members of the Executive Board shall occur after the annual meeting, the President shall designate a nominating committee from the Governing Council. Such committee shall

nominate not less than three candidates for the vacancy, from among whom the candidate receiving the highest number of votes of the Governing Council in a mail ballot shall be declared elected to the Executive Board to fill the vacancy.

Section 3. In addition to those prescribed in the Constitution and in these By-Laws, the Executive Board shall have the following powers and duties:

(a) To plan methods for the procurement of funds.

(b) To approve the budgets for the Association's work.

(c) To conform to the policies of the Governing Council in the conduct of its work.

(d) To designate the chairmen of the standing committees, to appoint their members unless otherwise provided in these By-Laws. To authorize the establishment of all other Association committees and confirm the appointment of their members.

(e) To transmit a report of its proceedings and transactions to the Governing Council at least thirty days before each annual meeting.

Section 4. After two consecutive terms of three years an elective member of the Executive Board, except one serving as chairman, shall be ineligible for reëlection during one Association year.

ARTICLE IX Nomination of Officers

The officers elected by the Governing Council shall be nominated from the floor by that body.

ARTICLE X Standing and Special Committees

Section 1. There shall be four standing committees of the Association as follows:

(a) Committee on Eligibility.
(b) Committee on Administrative Practice.
(c) Committee on Research and Standards.
(d) Committee on Professional Education.

Section 2. Each standing committee shall designate from among its membership such officers as it may require for the conduct of its business and shall control its policies within the limitations prescribed by the Governing Council and the Executive Board. The Executive Secretary shall be a member, ex-officio, and serve as secretary of each standing committee.

Section 3.

(a) The Committee on Eligibility shall consist of one Fellow to be elected by each Section and an additional Fellow elected by the Executive Board who shall serve as Chairman. Members shall serve for a term of two years.

(b) This committee shall pass upon the eligibility of Fellows, members and other constituents in accordance with the provisions of the By-Laws.

Section 4.

(a) The Committee on Administrative Practice shall consist of fifteen Fellows, twelve of whom shall be designated by the Executive Board to serve for a term of four years, the terms of three members expiring each year, and three of whom shall be elected annually by and from the Fellows affiliated with the Health Officers Section.

(b) This committee shall engage in the collection of information regarding current public health practices and analyze the material obtained to derive standards of organization and achievement. The findings and standards may be made available to public health workers through publications, information and field service under such conditions as the committee may establish. No standards shall be promulgated as the official and authorized judgment of the Association except with the approval of the Governing Council.

Section 5.

(a) The Committee on Research and Standards shall consist of fifteen Fellows representative of the various Sections of the Association appointed by the Executive Board. Members shall serve for a term of three years, the terms of five members expiring each year.

(b) This committee shall be responsible for carrying out research and the development of standards in the technical branches of public health service, and shall coördinate such research and standardization. This committee shall also be charged with the duty of reviewing from time to time standards already established. No standards shall be promulgated as the official and authorized judgment of the Association except with the approval of the Governing Council.

Section 6.

(a) The Committee on Professional Education shall consist of twelve Fellows appointed by the Executive Board. Members shall serve for a term of three years, the terms of four members expiring each year.

(b) This committee shall be responsible for carrying out research and the development of standards for professional education and training in public health work and shall perform such other functions as may be delegated to the committee by the Governing Council with the view of maintaining professional qualifications of high standard. No standards shall be promulgated as the official

and authorized judgment of the Association except with the approval of the Governing Council.

Section 7. Unless otherwise provided in these By-Laws, all other Association Committees shall be authorized and appointed by the Executive Board and the appointments of their members shall expire at the next annual meeting.

ARTICLE XI Sections

Section 1. The Executive Board shall approve rules and regulations relating to the government of the Sections, and to the appointment of administrative committees. Each Section shall elect its own officers and shall name its respective Section committees. The right to hold office or to serve as a member of a Section Council or as chairman of a committee in a Section shall be limited to the Fellows affiliated with such Section.

Section 2.

(a) The Section Chairman, with the advice of the Section Council, shall appoint a Committee on Nominations from the Fellows affiliated with the Section at least fifteen days before each annual meeting. The Section Secretary shall be a member of such committee.

(b) The names of the members of the Committee on Nominations shall be announced at the first meeting of the Section at each annual meeting of the Association. The Committee on Nominations shall present at the second meeting of the Section a list of nominees for the Section officers, and for membership in the Section Council; provided that if the name of any Fellow be transmitted to the Nominating Committee over the signature of ten Fellows of the Section prior to the second meeting of the Section, the Nominating Committee shall add the name of such Fellow to its own list of nominees.

Section 3. The officers of each Section shall be a Chairman, a Vice-Chairman, and a Secretary, who shall be the representatives of the Section to the Governing Council of the Association, except as provided in the Constitution.

Section 4. New terms shall begin and old terms shall expire at the end of annual meetings. After five consecutive years in any elective Section office, except that of Secretary, a member shall be ineligible to reëlection to that office during one Association year.

Section 5. The Chairman, or in his absence the Vice-Chairman, shall preside at meetings of the Section.

Section 6. The Secretary shall prepare the scientific program of the Section for the annual meeting, subject to the recommendations of the Section Council, and shall submit same to the Administrative Office. He shall keep the minutes and other records of the Section, and shall transmit to the Executive Secretary of the Association a copy of the minutes of both the business and scientific sessions as soon as practicable after the close of the annual meeting of the Association. When unable to be present at meetings, he shall thoroughly instruct a substitute as far in advance of the meeting as possible.

Section 7. There shall be a Section Council composed of the three officers of the Section and five members, to be known as the elective members, each of whom shall be elected for a term of five years; provided that when a Section is first established one member shall be elected to serve for one year, one for two, one for three, one for four, and one for five years.

Section 8. The duties of the Section Council shall be:

(a) To recommend papers, and to make general recommendations in relation to the annual meeting program.

(b) To advise on Section membership and on Section policies.

(c) To submit annually to the Governing Council through the Executive Board a report of the transactions of the Section.

(d) To report annually to the Governing Council through the Executive Board on the plans, scope and policy of the Section during the succeeding year.

(e) To formulate rules of procedure for the Section.

(f) To consider and transmit to the Governing Council resolutions originating in the Section. Only resolutions approved by the Governing Council shall be published as representing the policy of the Association.

(g) To advise on the publication of papers and reports presented at the Section meetings.

(h) To advise with respect to the appointment of technical committees, subcommittees, or Section representatives on committees of the Association.

ARTICLE XII Finances

All remittances to the Association shall be deposited to the account of the Treasurer. The Treasurer shall be custodian of investments of the Association and shall disburse funds in accordance with duly authorized vouchers. With the approval of the Executive Board he may establish a drawing account for the Executive Secretary, who shall send to members of the Executive Board a financial summary of receipts and disbursements each month. Once each month, or oftener if called

for, he shall also forward to the Treasurer and to the Chairman of the Executive Board an itemized statement of all expenditures. The Executive Secretary, the Treasurer and the Assistant Treasurer shall be bonded at the expense of the Association in an amount to be determined by the Executive Board. The books of the Association shall be audited annually by certified public accountants to be appointed by the Executive Board.

ARTICLE XIII MEETINGS OF THE ASSOCIATION

There shall be one general meeting of the Association, to be known as the annual meeting which shall be held each year at a place selected by the Governing Council. Special meetings of the Association may be called by a majority vote of the Governing Council, the Executive Board, or the Association. In all proceedings of the Association, *Robert's Rules of Order* shall be official.

ARTICLE XIV AMENDMENTS

These By-laws may be amended by a two-thirds vote of those voting on the Governing Council during the annual meeting, provided that twenty-four hours prior written notice thereof has been given. The By-laws may further be amended by a two-thirds vote of those voting at any meeting of the Governing Council called for the purpose, provided that notice thereof shall have been given at least fifteen days prior to such meeting.

Public Health Work in England: How It Is Like and Unlike Ours

London letter by the Roving Editor of the American Journal of Public Health

MARGARET G. ARNSTEIN, R.N., M.P.H., F.A.P.H.A.

THIS is a particularly interesting time to be in England observing health work, for the new National Health Service Bill is being debated now in Parliament and consequently the health work of the nation is discussed frequently and prominently in the newspapers and is at the forefront of everyone's mind. However, the very fact that one is present during a period when great changes in the present system are imminent makes it more difficult to give any report which will not be out of date by the time it is printed.

Nothing less than a full length book would suffice to describe all the things which seem to this observer to be of special interest to American health workers, to say nothing of any consecutive account of the scope and content of health work in the British Isles.

It has been difficult to choose from the things heard and seen those which can fit together into the confines of a letter from England. However, a few of the problems and achievements which strike one's attention because of their amazing similarity to ours, and in a few which stand out as differing quite sharply from our practices, are presented here.

A MULTIPLICITY OF HEALTH AGENCIES OPERATE IN A COMPLEX GOVERNMENTAL STRUCTURE

Health departments in England provide not only all the services habitually performed by our health departments, but also housing, and many functions which are usually carried out by our welfare departments, such as the administration of public hospitals, children's institutions and foster homes.

In England as in the United States there are numerous agencies carrying on various health functions in an equally complicated governmental framework. In a county the tuberculosis and venereal disease work may be administered by the County Health Authority (County Health Department) for the whole county. This same body may administer the maternity, infancy, and preschool work in certain parts of the county, while a dozen or more municipal boroughs (cities) and urban districts (villages) within the county administer their own communicable disease programs and perhaps also their own maternity—infancy programs. Certain cities, called County Boroughs, are entirely independent of the County Health Authority and administer all health services within the city.

The school health work[1] is administered by the education authorities, though coördination of work is achieved in Great Britain by the Medical Officer of Health also being the School Medical Officer. There are also many voluntary agencies operating alongside the official. There are district nursing associations in almost every county in England, and in all but 10 of the 61 administrative counties in England and Wales these associations are affiliated with the Queen's Institute of District Nursing. Such organizations as the National

Association for the Prevention of Tuberculosis and the Crippled Guild may hold clinics and even run hospitals in certain areas; the British Empire Cancer Campaign provides facilities for diagnosis and treatment in association with voluntary hospitals, and the British Red Cross carries on a multiplicity of peacetime activities, to mention but a few of these voluntary agencies.

As an example of the complexity of organization, in one large quite typical county visited, the County Health Authority employs 36 health visitors and 53 midwives. The health visitors do the tuberculosis work for the entire county, the maternity and infancy work in part of the county, and the school nursing in the entire county with the exception of 6 areas where the Education Authority employs 6 full-time school nurses. The midwives cover the whole county, many parts of which are also served by the District Nursing Association nurse-midwives. Seventy-seven district nurses in this county are employed by 61 separate associations affiliated with the County Nursing Federation which, in turn, is part of the Queen's Institute of District Nursing. The County Nursing Superintendent (nursing supervisor) supervises the nurses in these associations and coordinates their work. There are another nine district associations in the county which are not affiliated with the County Federation but which work independently.

The above presents a picture in only one branch of the health service, other branches such as clinic and hospital services being almost as complicated, voluntary agencies offering services in certain places and not others, hospitals serving parts of the county, or taking certain types of cases from other counties.

This type of organization with its multiplicity of agencies and overlapping of services is an all too familiar pattern to us in the States and is deplored in Britain as much as it is at home. However, there is a definite prospect that the situation will at least be partially remedied by the National Health Service Bill which unifies the official services under the major local authorities, counties and county boroughs (cities), so that when the Bill is passed minor local authorities (small cities and villages) will transfer whatever health activities they are now conducting to the County Health Authority.

REGIONALIZATION OF HOSPITALS

The National Health Services Bill will also break down boundaries in relation to hospitals, which are to be grouped into regions and administered by Regional Boards, not by local health authorities or voluntary boards, as they are now. The regions are planned around the existing medical teaching centers. Hospitals within the region will serve their "natural" areas, not necessarily a governmental unit, population grouping and transportation facilities being the factors defining an area rather than boundaries of cities or counties. Voluntary hospitals will be included in this scheme, for they are to be taken over by the government.

This scheme for the regionalization of hospital services resembles closely the plans which many public health workers in the United States have been making, writing about, and hoping to see in operation. At this moment a similar plan is being tried out in and about Rochester, N. Y., with the assistance of private funds, and the Hospital Construction Act passed by Congress enables the U. S. Public Health Service to promote and assist with the development of similar plans in the various states. It is therefore intensely interesting to see another country in the throes of putting these ideas into practice, getting down to practical details of administration, such as the employment

and assignment of personnel. (Though the National Health Bill has not been passed yet as this is written, there seems no doubt that it will pass in substantially its present form.)

GENERALIZATION VERSUS SPECIALIZATION IN PUBLIC HEALTH NURSING

Another familiar problem under discussion here is the extent to which public health nursing activities should be generalized. It seems "just like home" to find that in some areas there are three groups of nurses, health visitors (Board of Health nurses), school nurses and district nurses, while in others the health visitor does the school nursing and board of healtth work, and in the most rural areas one nurse does the work of all three groups, including midwifery.

The planning and operation of a generalized public health nursing service which includes midwifery is more difficult than one which does not offer this service, as those in the United States who have included delivery nursing service in their program know. However, it seems to offer fewer difficulties here, at least in the rural areas, than at home. The nurse midwives are left to plan their own time off and to arrange with a neighboring nurse to take their calls if they wish to go away for an afternoon or evening, but a relief nurse is supplied from county headquarters for more extended periods off duty. The midwife like the physician is always "on duty" and must always leave word where she can be reached. Many American public health nurses would feel tied by this system and would want a regular schedule of time off duty. As far as one can tell by contact with only a few district nurse midwives, they seem to be content. Their independence plus the interests and responsibilities of midwifery seem to compensate for so little time off call. The number of hours actually on duty is very variable, of course, but in the county visited was seldom more than 40–44 hours a week. However it must be noted that there is an extreme shortage of midwives and it is thought that the hours of work may be one of the factors discouraging nurses from practising midwifery, though it is certainly not the only factor.

The trend here, as at home, is toward more generalization, and the same questions arise as to how far one can carry this policy and in which places it is practical.

VOLUNTARY AGENCIES AND HEALTH EDUCATION

The Central Council for Health Education, which was established to coordinate the health education activities of some fifty national health agencies, is of particular interest to us at the present moment while the Gunn-Platt report is being discussed and acted upon in communities all over the United States. This Council does not attempt to coördinate the total program of the various agencies but it does act as a clearing house for their health education activities, and produces materials for all of them. The Council is supported by a grant from the Ministry of Healtth and grants from the local authorities and thus is also an official agency doing a large part of the health education work for the Ministry of Health. The Council prepares and distributes literature on all phases of health and, in spite of paper shortage and printing difficulties, many of these pamphlets are so readable, attractive and eye-catching that one wishes JOURNAL readers could see them, not merely hear about them. Movies, radio programs and lecture material are also prepared and distributed locally.

In addition to the central office in London there are 13 regional offices. The staff members in these regional offices work directly with local medical officers of health, advising and assisting

them in planning special campaigns. They not only draw up a budget for the campaigns and indicate sources of material, or voluntary organizations equipped to assist them, but they may also work with local groups in organizing the work. We have found this type of assistance from trained health educators of tremendous value in the few places where it has been tried on a more or less experimental basis. England is already carrying out this scheme on a national basis, though shortage of trained personnel has to date limited the amount of assistance given to local health authorities.

What the future of the voluntary agencies will be no one knows. As has been stated, the new National Health Bill provides for the government taking over all voluntary hospitals and, though it is not quite clear yet what will happen to the largest operating voluntary organization, the Queen's Institute of District Nursing, it seems fairly certain that there will be important changes in the financing of this agency as well. It is too soon for anyone to say how the Act will affect other voluntary agencies.

MINISTRY OF HEALTH CAMPAIGN FOR DIPHTHERIA IMMUNIZATION

The Ministry of Health has a public relations division of its own which carries on certain phases of the health education program not covered by the Central Council for Health Education. It gives material to the women's magazines regularly and frequently and to the newspapers, though the extreme shortage of newsprint has limited newspaper publicity. The Ministry of Health also has certain moving pictures made, does some radio broadcasting, and carries on national campaigns, such as that against diphtheria.

Americans are rather apt to think of the English as slow moving or at least not "pushers." The success of the diphtheria immunization campaign is an example of the danger of all such generalizations. In four years the immunization status in the whole country was raised for children under 16 from 5 to 58 per cent and for those under 5 from almost zero to 50 per cent.

This was done through intensive campaigns of education and persuasion, not regulation, much as we did when we started to promote diphtheria immunization some years ago. England, perhaps partly because it is smaller and more homogenous, has achieved a greater uniformity of success over the whole country in four years than we have in fifteen years. Much the same methods have been used: education of the public through posters prominently and widely displayed in all public places and through radio programs, literature, and talks, and, most effective here, as at home, the visits of the public health nurse. Great Britain is as free from centralized dictatorship rule as we are, so this campaign had to be carried out by fifteen hundred separate local health authorities. A survey made for the Ministry of Health in October, 1945, showed a remarkably high performance from almost all the local authorities. This survey found that very few people (only 1 per cent of mothers whose children had been immunized) reported any difficulty in getting the immunization done, an indication that the local authorities had made facilities easily available and had publicized them well.

These are a few of the features which seem very similar to our problems and achievements. There are many others in this category, such as the difficulty in obtaining sufficient nurses for public health work or hospitals, the equal difficulty of obtaining domestic staff for hospitals, the acute shortage of personnel in tuberculosis and mental hospitals, all of which are in the forefront of everyone's thoughts.

WHY SOME HEALTH PRACTICES DIFFER FROM OURS

There are also many strikingly different practices and viewpoints, some of which appear to be due to the differences in geography and size of the two countries.

For instance, it has been possible entirely to eliminate rabies by quarantine regulations at the ports, an achievement which would be almost impossible in a country like the United States. Similarly, though only about 30 per cent of the children born each year are vaccinated against smallpox, there has been no widespread outbreak for some years. Smallpox vaccination has been compulsory, but a waiver allowing exemption was so easy to obtain that less than one-third actually were vaccinated. The new National Health Bill removes the compulsory vaccination feature because the regulation as it now stands is a farce. In view of the great success of the diphtheria immunization campaign one might expect health officials to be preparing similar campaigns for voluntary vaccination, but such apparently is not the case at the present time. In spite of the fact that airplanes have reduced the importance of seaports as quarantine stations and disease barriers, there is still a strong feeling among the local health officials met in the course of these observations that smallpox, if introduced, could easily be controlled. They feel that the risk is relatively small and, in view of the strong public prejudice against vaccination, it would not be worth the time and expense to try to overcome it at the present time.

Many more of the differences in health practices are due to the differences in our two social structures and the degree to which not only medicine but other phases of life have been socialized here and are being rapidly brought more and more under governmental control. This is such an important and fundamental difference, influencing every health activity no matter how minute, that great readjustments in thinking are needed if the American visitor is not to make mistakes in analyzing the health work in England.

Another fact which must also be kept constantly in mind is that most of the obstetrics is done by midwives, which influences not only the care of the patient, but also such related practices as personnel policies for district nurses, and the number of physicians needed in an area.

FOOD DISTRIBUTION IN ANTEPARTUM AND INFANT CLINICS

Post-war shortages, rationing of food and clothing, and the difficulties of shopping also play an important part in determining certain policies and practices. For instance, to an American public health worker it is surprising to see orange juice, prepared dried milk formula powders, vitamin preparations, and certain other foods sold or given free at all well run baby and prenatal clinics. This is done to simplify the mother's life a little, as it cuts out some tedious visits to the food office. Even a short period of housekeeping in England makes one appreciate any procedure which reduces the number of places one has to go and the number of times one had to stand in line. One argument we use at home against giving food at clinics does not apply here, others do not fit into their social philosophy. We say one should not mix "relief" with health work, but this is not relief in our sense, for all pregnant women, regardless of financial status, are entitled to these foods at the reduced clinic prices, and one item, orange juice, can only be obtained at the clinic or the food office. The shortage of many protective foods has made supplementary vitamins essential and, though they are obtainable in the shops, they cost much less at clinics. The aim in Great Britain is to make sure that no mother

or baby should be deprived of necessary foods for lack of funds, and it is not thought advisable to depend only on educating the mother to plan her budget so that she can buy these items on the open market. In the United States we think that we should educate mothers to attend clinics for the medical and nursing supervision they receive and that they should not come in order to get "hand outs." The English public health workers think that, as long as they come to the clinic and remain under supervision, the reason for their attendance is unimportant.

Whether one thinks distributing food at clinics is good or bad, one must come to a conclusion only after careful study of the whole situation in England, and probably it takes longer than a few months to understand all the implications and consequences of this policy.

Another factor which has a bearing on the situation is the high percentage of women who attend prenatal clinics. Seventy-six per cent of the mothers of all babies born in 1944 attended prenatal clinics! This is an amazing figure, probably not equaled anywhere in the United States. Though some may come and come early in order to get a physician's certificate, without which they cannot get their extra food and clothing coupons—others in order to reserve a hospital bed—this is probably not a very large factor, for in 1938 sixty-one per cent of all prenatals attended clinics and this number was then on the increase.

The large number of prenatals attending clinic has resulted in very overcrowded clinics. Examinations and interviews are necessarily brief and little teaching can be done in clinic. The shortage of medical and nursing personnel has made it impossible up to date to increase the number of clinic sessions, but in each area visited, plans have been made to remedy this situation as soon as more personnel are available.

MATERNITY CARE—POSTPARTUM PERIOD

Though 76 per cent of the prenatals attended clinic during the antenatal period, only a very small percentage attended postnatal clinics. The postnatal clinic service has received attention only recently and is now growing. On the other hand, a longer lying-in period is thought to be important. Again, in addition to the physiological reasons for the practice, there are wartime and post-war conditions which have a bearing on it. All mothers are expected to stay in the hospital for 14 days after the birth of the baby, except when there is an acute shortage of hospital beds, when this period has been reduced to 10 days. When the baby is born at home (and a much higher percentage are born at home than in the United States), a midwife or district nurse visits twice a day for the first 3 or 4 days, then daily until the 14th day postpartum. This longer lying-in period is thought to be important in the establishment and maintenance of breast feeding even in normal times, and during the war was doubly important, for it was impossible to get friends or relatives to help at home, since all women had to work. Nor, as has been pointed out, is housekeeping ever "light" as it inevitably entails standing in one line after another and carrying heavy parcels.

Perhaps it is just these difficulties that have stimulated the local health authorities to extend, and in some areas initiate, a project which had been operating in a small way before the war. "Home helps," domestic workers employed by the health authority, are supplied as needed, either free or at small cost. This scheme has proved so useful that the new National Health Bill makes it a permanent function of health departments.

It is most interesting to see in operation here some of the projects which are still in the discussion or experi-

mental stage at home. The provision of "home helps" is one example; another was seen in a maternity hospital in the City of Luton. Numerous papers have been presented recently in American medical and public health journals regarding the desirability of placing the infant in the same room as the mother during the puerperium. Discussions of these papers have raised questions regarding the practical nature of such a plan and the difficulty of insuring the mother's rest. The maternity hospital at Luton takes care of all these questions. It is a delightful modern building with an atmosphere of quiet and cheer which is ideal for maternity care. At the time of visit, there were no more than 4 mothers to a ward, and each mother had her baby next to her. The babies are taken out at night, thus solving the sleep problem, and they may be, and often are, taken out in the daytime if advisable for either mother's or baby's health or peace of mind. Putting mothers and infants together is a common, though not universal, practice in England and as seen in this one hospital seemed ideal.

BREAST FEEDING

We talk a great deal about breast feeding at home, but they do more than talk about it in England. Again a small social factor exerts quite a large influence. Refrigeration is the exception, not the rule, here and the milk is apparently not of the same high quality as found in the larger cities at home (judging from newspaper accounts and comments of health officials); consequently it is harder to keep a formula fresh. However, these facts simply indicate why it is even more important to breast feed here than it is in America, and give added weight to the more fundamental reasons for breast feeding.

Much care and attention are given to establishing and maintaining breast feeding. As has been mentioned, the midwife visits daily for 14 days, then the health visitor starts visiting on the 15th day if possible. Though, of course, the success of the physician and midwife and health visitor in maintaining breast feeding varies in different areas, it is generally much higher than at home and the expectation of the goal that should be reached is even higher. The pediatricians here deplore the fact that only 80 per cent of the babies born in hospitals are entirely breast fed at the end of 2 weeks. A pediatrician in a health department was heard to say that it was "appalling" that after 3 months only 50 per cent of the babies were breast fed and that this number had dropped to 40 per cent after 6 months!

In addition to the regular antenatal clinics there are special clinics for consultation regarding breast feeding for the more difficult cases, and some of the regular antenatal clinics are doing intensive work in this field and getting excellent results. A demonstration and lecture on breast feeding was attended at the British Hospital for Mothers and Babies, one of the clinics which are doing special work on breast feeding. The methods demonstrated there and results obtained are worth a separate article dealing with breast feeding.

The infant, after his first 14 days, continues to be the object of active health department interest. Ninety-six per cent of the infants born in 1944 were visited by health visitors. The health visitor aims to visit all infants regularly regardless of their attendance at clinics or any special problems. Actually, as the health visitor always has more work than she can do, she is apt to visit those who do not come to clinics more often than those who attend clinic regularly. The emphasis placed on this branch of health work by the health visitor is indicated by the fact that her work load is measured in terms of the number of births in her area, not in terms of the total population.

Articles analyzing maternal and infant deaths in relation to various obstetrical practices and socio-economic factors, including those produced by war, can be found in the literature. Numerous studies of the nutritional status of wartime England have also appeared in print, therefore no attempt has been made to present figures related to the practices observed. However, this observer can report that the infants and preschool children seen in clinics, nurseries, and in their homes certainly bear out the finding of the nutritional studies. As is well known, the nutritional status of children in England improved during the war and is now at a generally high level, and a healthier, huskier, firmer lot of babies this observer has never seen.

SCHOOL MEDICAL SERVICE

As startling as seeing food distributed in clinics, are the school treatment clinics. Minor ailment treatment clinics are part of the school medical scheme. They are usually located in a centrally situated school or in a separate building, and children are sent from other schools by the teachers or school nurses. The school system also operates free dental treatment clinics, eye clinics, and clinics for other specialties. Their services are available to all children in the schools equivalent to American public schools. There is no question whether a child is eligible for free care, or of sending him to his private physician, except of course for major illnesses. Apparently the shortage of physicians during the war, the 35 year old National Health Insurance scheme and system of "panel" doctors, has so influenced thinking on medical care that this practice is never questioned. There are few difficulties (except shortage of medical and dental personnel) in having a defect corrected once it is found. Sometimes parents do not agree to having the corrective work done, but apparently this is not frequent.

There are dozens of other things which clamor for space in this article, some just flashes from days in the field, some gleanings from conversation and discussions heard in the classroom, a lively meeting of the Royal College of Nursing addressed by the Minister of Health, a conversation in a bus with a health visitor, disconnected bits, but all thought provoking.

This opportunity to observe health work in another country has convinced this observer that there should be much more international visiting. It gives one a strong feeling of how closely bound the world is to see the identical problems in two different countries and meet almost the same wording in the descriptions of the difficulties involved in solving them. It is stimulating to see far advanced developments in certain directions toward which some of us have just taken the first steps, and it is refreshing to meet ideas so different from those voiced at home that one had not even recognized them as a legitimate point of view. Many English public health officials are planning to visit America and it is to be hoped that arrangements can be made for health officers and public health nurses from all parts of the United States to visit England.

REFERENCE

1. See Underwood, J. E. A. School Health Service in England and Wales. *A.J.P.H.*, 36, 7:703 (July), 1946.

Credit Lines

A PROPOSAL FOR THE SOLUTION OF THE RECRUITMENT PROBLEM

Among the memorable features of the events of the Annual Meeting relating to the Merit System Unit, was an appraisal of public health recruitment problems by Dr. Wallace H. Wulfeck, Vice-President and Director of Research of the Federal Advertising Agency. This discussion preceded the Cleveland meeting and served as an orientation for the panel members who participated in the Merit System Unit session at the meeting. The analysis presented by Dr. Wulfeck represents a significant departure from the traditional approach to recruitment in public health, and it is felt that the point of view Dr. Wulfeck expressed has a special claim to the attention of the general membership.

In many major respects the problems a public health agency confronts in seeking personnel parallel the problems a manufacturer meets in seeking a market for his product—the product in the case of the public health agency being, of course, a "profession" or "jobs." It is quite conceivable that the large experience of advertising agencies could be brought to bear on the problems of the professional agency. The research approach which underlies modern advertising procedures might very well be applied in an effort to develop methods for attracting qualified people to the field of public health. Such research customarily proceeds by way of four major steps: an analysis of the product; an analysis of the market; the development of the actual advertising by creative technicians on the basis of the findings of the two preceding steps; and, finally, pretesting the advertisement thus created to determine its effectiveness before it is released on a wide scale.

Powerful as the advertising approach can be, Dr. Wulfeck nevertheless felt that the particular problems posed by the public health field could be dealt with most effectively as a public relations problem. Through such a program, an explicit awareness of the function of public health in this culture, its right to public support and approbation and to the best personnel available could be developed, with the dignity it deserves, among the public as a whole and among the professions from which public health personnel are drawn. The same basic motives activate professional people as activate people in general. They, like all other human beings, are driven by a longing for security, for self-expression, for adventure, and for fellowship. These drives are abundantly present in public health endeavors but this fact must be made known to the people who have to be reached if the pressing problem of personnel in public health is to be solved.

This task can best be accomplished, Dr. Wulfeck believes, through the appointment of a highly qualified public relations person to head a nation-wide program. Although the public health field consists of fairly autonomous groups throughout the country, the public relations program should be a single, unified project. Not only would this mean a more efficient and economical venture, it would also avoid the diversification and weakening of appeal which would result from a number of local programs. Such a person could so raise the status of public health in the public mind that legislators would say, "This is the kind of program we must sup-

port"; voters would say, "This is the kind of man we want to elect"; and people would say, "This is what I want to do; this is my life."

The urgency of the personnel problem in public health is great, the significance basic, and the need to solve it imperative. Unless, Dr. Wulfeck, says, public health leaders adopt the techniques which have so indisputably demonstrated their effectiveness in business and industry, the solution to its recruitment problems will be postponed indefinitely. "You do not," Dr. Wulfeck concluded, "have a choice with regard to your course in this. You cannot afford *not* to undertake this project."

HEALTH LEGISLATIVE RECORD

Health Legislative Record, 1907–1946 is the forty-year chronicle of the outstanding health legislative program carried out in New York State by the state and local Committees on Tuberculosis and Public Health of the State Charities Aid Association. During the entire period Homer Folks has served as Executive Secretary of the Association, and George Nelbach Secretary of its State Committee on Tuberculosis and Public Health.

In 1908 the basic tuberculosis law of the state was drafted by the committee and its enactment secured; in 1909 the County Tuberculosis law was drafted and shepherded through the legislature.

The part of the committee and its citizen supporters in the Public Health Commission of 1913, and the public health laws resulting from it, in the passage of the county health unit law of 1921, in eliminating the "means test" for admission to tuberculosis hospitals, and in preparing the recommendations on which the Governor's Health Program of 1946 was based—these and many others are briefly summarized and constitute an impressive chronicle of citizen service.

Since the creation of the State Committee in 1907 it has served as the designated representative of the National Tuberculosis Association in New York State outside of New York City. It was the first of the state associations to receive permission from the national association to use funds from Christmas Seal sale for the development of other lines of health work. It thus participated in the 1926–1930 diphtheria eradication campaign and is the up-state representative of the American Social Hygiene Association in the venereal disease control movement. The committee is the parent organization of 62 county and city tuberculosis and public health associations throughout the state.

CANCER CAPSULES

About the current size and shape of a woman's compact (the gadget women use for the hourly powdering of noses), and decorated not unlike it is the compact story of cancer, subtitled "Some Cancer Facts for Women." Put out by the New York City Cancer Committee, it tells in a bright conversational style the known facts about cancer and "is aimed to quiet some of your fears, answer some of your questions, and arm you with several life-saving tips."

Accompanying the "compact" are a number of leaflets about cancer of the various organs, ten cancer I.Q. questions, and a listing of the most common wrong information about cancer.

CITIZEN INTEREST IN THE HEALTH DEPARTMENT

The finance committee of the Pittsfield (Mass.) City Council has recommended that the city Health Commissioner's salary be increased from $4,000 to $6,000. In a weekly signed column in the *Berkshire Eagle*, the Secretary of the Pittsfield Taxpayers' Association

uses this as the starting point for citizen education in several matters. He analyzes the suggested new salary in relation to other city department heads; it is more than that of any other department head except the Superintendent of Schools, one-third more than the salary of the Public Works Commissioner, one-half more than the Mayor, and 60 per cent more than the Welfare Commissioner. In a further analysis of the five Massachusetts cities with medically trained public health officers, Mr. Ahern finds that Pittsfield's Health Officer is at no disadvantage in salary.

Then Mr. Ahern analyzes the work of the Health Department, pointing out the steady decline in the city's death rate and in the incidence of the common communicable diseases. He recognizes that health ranks with schools and public works in vital public services. But—and this is the warning that should be noted by public health workers in their quite proper current demands for higher salaries—Mr. Ahern in mentioning the Health Department's apparent lethargy in certain matters of building codes, water pollution, and others, says "Communities will pay off when health officers lift their eyes to new fields to conquer, visible to the average man even now." A neat job of objective analysis.

A COMMUNITY MEETS ITS OWN NEEDS

Credit Lines is indebted to the Berkshire District Health Officer, Dr. Charles E. Gill of Pittsfield, Mass., for copies of the *G. E. Pittsfield Apparatus Works News*. These tell the story of how employees of the local General Electric plant raised enough money for three iron lungs plus $6,000 for the local chapter of the National Foundation for Infantile Paralysis.

It all began with five polio cases, one fatal, one paralyzed, and three recovered, in one local Boy Scout camp in July. On August 9, the *News* outlined the campaign plan by which it was hoped each General Electric employee would contribute at least $1. The goal was three iron lungs, cost $4,800. On August 23 the *News* announced a total of nearly $11,000 in gifts.

PUBLIC HEALTH EDUCATION IN INDIANA

Indiana's *Monthly Bulletin* of July, 1946, uses a series of simple but effective charts to educate Hoosiers in the need for extending their health services. The figures point out, for example, that the death rates from four communicable childhood diseases and from typhoid fever as well as from all enteric causes, though in each case lower than the average for the United States, are higher than in any of the four neighboring states of Illinois, Michigan, Ohio, and Wisconsin. In no one of the measures of community health—cancer mortality, tuberculosis mortality, maternal or infant mortality—is Indiana at the top of the list of these five states. In per capita appropriation for health services Indiana is fifth from the bottom of the 48 states, in expenditures for local health units it is at the bottom of the five states, with less than one-third the expenditures of its nearest competitor, Illinois. As to state expenditures, it is lower than any of the five, except Ohio.

The moral: "How badly do we need full-time local health departments! They would cost so much less than disease. . . . Adequate public health administration for a given community will cost annually about one dollar per capita, the cost of two cocktails, or a fairly good tie. . . . How ridiculously small that seems."

BLUEPRINT FOR REHABILITATION CENTERS

The fourth of the publications of the Baruch Committee on Physical Medicine is a *Report on a Community Rehabilitation Service and Center*. This booklet is the final report of the Subcommittee on Civilian Rehabilitation

Centers. The foreword states that it has been prepared "in the hope that it will be of aid to communities, medical schools, civic groups, or any organization interested in establishing community rehabilitation centers."

The plans have been derived from the experience in the armed forces. They represent a basic guide and must be modified to meet specific needs of the individual community. The report has been prepared to meet requests for information on rehabilitation centers that have come from all over the world.

Available from The Baruch Committee on Physical Medicine, 597 Madison Avenue, New York 22.

THE RIGHT—SO RIGHT—ANSWER!

A mayor of a midwestern town recently was visited by a delegation with the request that he reopen a red-light district, closed during the war. He told them: "Gentlemen, I'll reopen that district if you permit your own daughters to staff the houses. Somebody's daughters would have to be placed there. I don't want the personnel recruitment on my conscience." The delegation left in silence. "The Prostitution Racket Is Back" by Albert Deutsch in *The American Mercury*, September, 1946.

The New York State Committee on Tuberculosis and Public Health sends out this perfect answer to its local associations, suggesting that it be used in bulletins and news letters, in talks and interviews.

DULUTH'S ANNUAL REPORT

The 1945 report of the Duluth, Minn., Health Department is its 49th. It takes justifiable pride in a perfect maternal mortality score—no deaths from diseases or complications of pregnancy and child bearing. "What has been done before may be done again!" says the report.

It also takes pride in the history of its diphtheria prevention program. Twenty-five years ago in 1921 there were 204 cases and 11 deaths. In 1933 began a ten year period with neither resident cases nor deaths (four non-resident cases and one death during the period). In 1943, following the trend in other areas of the country, four cases appeared, in 1944, 22 and in 1945, 18. However, only two deaths occurred in these three years. The report does an excellent job of interpretation of this trend, of the four to six month period required for diphtheria injections to attain a satisfactory level of immunization, and of the timing factors in planning a city-wide immunization campaign.

The margin illustrations in the report are taken from the Association's pamphlet "What to Tell the Public About Health."

COMMUNITY EDUCATION IN COMMUNITY NEEDS

The American Hospital Association met in Philadelphia in October. This, together with the passage of the Federal Hospital Construction Act, inspired the Chamber of Commerce to devote a large part of the October *Philadelphia* to a discussion of the hospital problem in that city, with particular emphasis upon the Blue Cross plan.

With appropriate historical notes (Ben Franklin was the first clerk of the first Board of Hospital Managers in 1751), and with excellent photographs, it tells the story of the city's existing hospitals, sources of their income, their contributions to medical science, such as Bryn Mawr Hospital's part in developing the dried blood plasma methods, and finally the story of Blue Cross—its growth, its effect upon the stability of hospitals, and the degree of its acceptance by the public and the medical profession. This has been called "a unique effort to bring to the citizens of our community an awareness of the complexities which

must be understood by everyone if Philadelphia's needs are to be met."

FIFTY YEARS OF HOFFMAN-LA ROCHE

Hoffman-LaRoche celebrates its 50th birthday, and the 10th birthday of the *Roche Review* (Roche Park, Nutley 10, N. J.), with a Tenth Anniversary issue of the Review. It summarizes the progress in medicine, and in endocrinology during the years 1936–1946, of the progress at Roche itself during these years, a brief history of the firm including pictures of the Basle, Switzerland, plant where 50th anniversary festivities were recently held, as well as past and present pictures of Roche Park in New Jersey. An interesting report without blatant ballyhoo.

JOINT WATER SUPPLY SYSTEM FOR TWO MICHIGAN CITIES

Evidence piles up of coöperation among communities in providing citizen services. The latest comes out of Michigan where the cities of Saginaw and Midland, with populations of 81,000 and 10,000 respectively, have entered into an agreement to build and operate jointly a water supply system, the annual operating costs to be allocated on the basis of the amount of water used. Its management will be vested in a six member board consisting of the city manager and two other representatives of each city.

SUMMER INTERNSHIPS FOR MEDICAL STUDENTS IN HEALTH DEPARTMENTS IN MISSISSIPPI

Summer Internships in a Public Health Program for Medical Students, describes a demonstration program arranged by the Mississippi State Board of Health in the summer of 1946. Twelve sophomore and junior medical students from four coöperating medical schools were selected on the basis of references and their expressed interest in public health. For the period of their internships they were given subsistence allowances. A one week introductory training course was conducted at the central offices of the State Board of Health in Jackson by Felix J. Underwood, M.D., and his staff. The students were then assigned for two months to county health departments that offered a suitable program. Here they not only observed the operation of the county health units but also participated actively in the work of the departments, principally in the various clinics.

Comments of the students and the participating health officers quoted in the booklet indicate that this project, which was planned "to determine the value of two or more months' actual experience in a state-wide public health program," was a successful experiment. Plans are already in progress to repeat and to expand the program of summer internships in Mississippi in 1947. Applications for participation are being received by Felix J. Underwood, M.D., Executive Officer, Mississippi State Board of Health, Jackson 13, Miss.

For the benefit of those who are interested in field training it would be interesting to know how the schedules were arranged as, for instance, the amount of time spent with various members of the health department staff, number of clinic sessions attended, and the methods of introducing the students to community programs.

POLLUTION ABATEMENT

The abatement of the pollution of streams and inland waterways is the chief topic of concern in the October, 1946, issue of *Sewage Works Engineering*. In anticipation of the introduction of a new bill in the 80th Congress to replace HR 6024, "the compromise bill, which failed to compromise"—information relative to current state pollution efforts is presented.

"National Round-Up of Pollution Abatement Program" is one of the articles

appearing in the issue mentioned above. It summarizes the replies of 35 state sanitary engineers to questions concerning: (1) official pollution abatement units and their programs; (2) new pollution legislation; (3) the attitude of industry toward pollution abatement; (4) state participation in joint pollution abatement activities, and (5) present sewage treatment works construction plans. The text of the replies of 31 of the state engineers is also included.

INTRODUCING THE "COMMENTATOR"

With Vol. 1, No. 1 of the *Health Commentator* in October, 1946, Washington was added to the list of states whose health departments publish a monthly bulletin of news about state health activities. In the first issue Arthur L. Ringle, M.D., State Director of Health, outlines the purpose "to interpret new developments in public health and to make you better acquainted with the work of your local health department and the State Department of Health."

This issue also reports plans for the organization of a Bellingham City-Whatcom County full-time health department as the result of action by the city council and county commissioners. This area of more than 60,000 persons is currently served by two part-time health officers.

HOSPITAL COUNCIL

Credit Lines welcomes the new monthly *Bulletin of the Hospital Council of Greater New York* (370 Lexington Avenue, New York). Although the September, 1946, issue is Vol. 2, No. 1, it is actually a new bulletin, its only other issue being in 1944, after which it became a wartime casualty. This new first issue reviews the progress in the development of a master plan for hospital facilities in metropolitan New York and gives a brief summary of the Hospital Construction Act in non-technical language. John B. Pastore, M.D., is Executive Director of the Council, Haven Emerson, M.D., is Chairman of its Planning Committee and serves on the editorial board of the *Bulletin*.

HOME RULE IN HEALTH

Under this title the October *Georgia's Health* (12 Capitol Square, Atlanta 3) reports that eight multiple county health units have been organized since January 1, 1946, thus providing local health service to 400,000 persons. More than two-thirds of the state's population is now protected by full-time local health department service. Continues the report "Personnel shortages are more acute now than they have ever been. Since personnel is scarce, effective distribution of that remaining has been a paramount objective."

THE EVALUATION SCHEDULE IN OTHER FIELDS

A recent correspondent proposes that the *Evaluation Schedule* might be used as a pattern for evaluation in the field of public welfare. If among our readers there are uses of the *Evaluation Schedule* in other fields outside of public health, the editors would be pleased to know about them.

URUGUAY'S FIRST HEALTH CENTER

In March, 1946, Uruguay's first health center was inaugurated in Fray Bentos, a municipality of about 18,000 persons. Fray Bentos is a meat packing center and has an excellent fresh water port on the Uruguay River. The story of this health center, a coöperative venture with the Institute of Inter-American Affairs, the community organization preceding it, its activities and staff, is told in the September *News Letter* of the Health and Sanitation Division of the Institute of Inter-American Affairs (Washington 25, D. C.). Among its present unusual features is a six month course in nursing

for local student nurses, in order to meet the nursing shortage.

IMMUNIZATION IN AURORA, ILLINOIS

The *Illinois Health Messenger* (Springfield, Ill.) of August 1, 1946, reports on the diphtheria and smallpox immunization program in the Aurora public schools. The chief elements in the protection of nearly 90 per cent of school children are the coöperation of medical, public health, and school agencies, and the regularity with which the program is carried on each year. In this program only those unable to pay are given free service; the physicians participating in the program are reimbursed from the $1.50 charge per child, for which a complete series of inoculations against diphtheria and smallpox are provided.

TIPS ON THE USE OF CARBON TETRACHLORIDE

"How to Use Carbon Tetrachloride Safely," is further inscribed, "Tips to the Foreman." Those titles of the leaflet prepared by the Safety Research Institute, Inc., New York City, describe the contents of the four page folder adequately. If you work with carbon tetrachloride you probably would appreciate seeing a copy of these Tips.

USE OF RODENTICIDE 1080

Here is a timely leaflet published by the Texas Water and Sanitation Research Foundation, Austin, Tex., that should answer those questions about the new rodenticide "1080." "Instructions for Use of Compound 1080 as a Rodent Poison," tells briefly how to use the poison, limitations in its use, precautions in handling, and what to do when those inevitable accidents result in the wrong animal (man) getting the poison.

CANCER EDUCATION IN SCHOOLS

The American Cancer Society (350 Fifth Ave., New York 1) has a set of cancer education pamphlets for schools known as School Set "A." It includes instructions for building a cancer control school program, a bibliography, and much material to stir the interest of youth. *Changing of the Guard,* for example, starting with the historical guards at Buckingham Palace, inspires the youngster to guard his parents with knowledge about cancer; *Health Heroes* is a moving short biography of Marie Curie; *Cancer: A Challenge to Youth* is an attractive classroom guide to the study of cancer; *Youth Looks at Cancer* is a Textbook for Colleges and High Schools. These and others included in the packet make for a well balanced study project which introduces young people early to one of the present-day most serious and most puzzling medical problems.

CANCER EDUCATION IN LABOR UNIONS

The New York City Cancer Committee last spring began a vigorous campaign of cancer education in labor unions. By getting the coöperation of the Central Trades and Labor Councils of both national unions, and the Joint Boards or Councils of local unions in a particular union it has been able to place its educational material in many union headquarters and meetings and to plan for physicians' lectures on cancer to union groups. This is a channel for health education that other groups could use with profit.

WORTH ACQUIRING

With the publication of *Cancer Facts* the Health and Welfare Division of the Metropolitan Life Insurance Company ends its first year of an extensive educational program on cancer. *Cancer Facts* is an exhibit first displayed at the July, 1946, meeting of the American Medical Association. It consists of 10 charts, 21 x 30 inches, in two colors. Copies are available for teaching and

exhibits (Health and Welfare Division, Metropolitan Life Insurance Company, 1 Madison Avenue, New York 10).

This exhibit reproduced in booklet form, is called "Cancer Facts." The supply of the booklet is limited to reference use or for study or promotional programs.

OKLAHOMA'S MERIT SYSTEM ANNUAL REPORT

The 1945–1946 annual report of the Oklahoma Merit System of Personnel Administration represents a departure from the usual method of reporting activities. Designed to attract candidates and potential workers for public health, welfare and employment agencies, it presents in pictorial and graphic form, through cartoons and the use of short, terse, factual statements, the steps through which an applicant goes in order to secure a position. It presents the principles of the merit system of personnel administration, its history (on one page with two cartoons), the application and examination process, and the various benefits which are a part of government service. The veterans' section is particularly well done. The preference given for veterans is presented clearly and concisely, positions for veterans in public welfare are listed, and a one-line war biography is given for 49 veterans who have returned to their work.

Major vocations are listed under a picture of the home office of each agency, and "common agency jobs" are listed separately. The work history under the merit system of one employee is carried under her photograph, and three outstanding examination candidate are pictured.

The Merit System Council has two pages listing major actions taken during the year with regard to personnel.

For the person interested in the classification of activities carried on by the Council, the section on examinations, activities affecting personnel, including certifications, will be of interest. The unit demonstrates its interest in self-analysis by the studies being carried on relating to item analysis of examinations, analyses of oral examinations, tenure of employees, non-appearance of applicants, personnel status and costs.

This attractive pamphlet is timely in view of the expanding post-war health programs and the need for public workers.

CORRECTION

The correct address for Community Service Society as mentioned in November Credit Lines (p. 1328) is 105 East 22nd, New York 10, N. Y. The correct price of the latest revision of its Guide for Public Health Nurses: Tuberculosis is *10¢* plus postage.

BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted. All books reviewed in these columns may be purchased through the Book Service.

The American Hospital—*By E. H. L. Corwin, Ph.D. New York: The Commonwealth Fund,* 1946. 226 pp. Price, $1.50.

Those engaged in the field of hospital administration, as well as the public at large, have been limited in the availability of informative material on this subject. As a matter of fact, but two or three books of significant value have been published during the past quarter of a century which could justify being considered as a text and reference at the disposal of those concerned with hospital care. Anything, therefore, which contributes to the literature in this field has received a most hearty welcome.

Dr. Corwin has assembled, in readable form, some interesting and historic data on the development of the hospital structure in the United States, the changes which have taken place in a comparatively short span of time, and has emphasized the important reasons which have been responsible for the increasing popularity and the rapid growth of our hospitals. Chapters are devoted to staff organization, the out-patient department, the hospital as a teaching institution, and particularly appropriate space is given to a review of the past and the prospects of the future. In connection with the latter phase, the place of convalescence, chronic care, domiciliary treatment of the sick, as well as an estimate of post-war hospital needs, receive fitting recognition.

This book will be of great interest and value to all who are interested in the whole subject of hospital service for the American people and who may desire, in reasonable digest form, facts and figures dealing with this important phase of essential community service.

CHARLES F. WILINSKY

Cities Are Abnormal—*Edited by Elmer T. Peterson. Norman, Okla.: University of Oklahoma Press,* 1946. 263 pp. Price, $3.00.

This book, a symposium by a dozen authors, many of them well known, presents a case for "decentralization" of cities. One chapter, by a physician, is on "biological truths and public health." In spite of many undocumented assertions or scientific half-truths in this and other chapters, there is much relevant and valuable material in the volume on the desirability of having the industrial worker tied to the soil. Many aspects—including "the atomic threat"—are touched on, with perhaps too little emphasis on blighted areas and the slums. The tenor of the book is unduly optimistic. It would appear that the evils will be righted "under the auspices of individual initiative, encouraged by such a governmental policy as is likely to create the appropriate climate and ecology for decentralization."

ROLLO H. BRITTEN

Essentials of Pediatrics—*By Phillip C. Jeans, A.B., M.D., Winifred Rand, A.B., R.N., and Florence G. Blake, R.N., M.A. (4th ed.) Philadelphia: Lippincott,* 1946. 627 pp. Price, $3.50.

Here is an excellent book for schools of nursing where public health nursing is being incorporated into the basic curriculum. The relation of the child to the family and what constitutes complete nursing care is stressed repeatedly. "Situations for Further Study" encourage the nurse to outline instructions for the mother giving care in the home. Chapter V—"The Child Health Conference as a Means of Guidance" is recommended for the public health nurse as well as the nurse in the out-patient de-

partment of the hospital for whom it was written.

The contents have been rearranged into five units as suggested in the curriculum for schools of nursing prepared by the National League of Nursing Education. The description of the growth and development of the normal child precedes the discussion of the specific diseases of children and the nursing care recommended for each.

The many illustrations and arrangement of text material into double columns with appropriate headings make for easy reading. A glossary and up-to-date bibliography enhance the value of the book for the undergraduate and graduate nurse. FLORENCE MANLEY

The Forces That Shape Our Future—*By Clyde Eagleton. New York: New York University Press,* 1945. 200 pp. Price, $3.25.

Things move so fast in the international field that it is unusual to find a book published in 1945 which is still valuable in 1947. Professor Eagleton's James Stokes Lecture is an exception to the general rule, in part perhaps because the Commission for the Study of the Organization of Peace (with which Professor Eagleton is connected) is playing so influential a part in shaping national policy. In any case, this compact volume is well worth reading for those who want to face wisely the problems of the future.

The major thesis of Professor Eagleton's book is that the increasingly complex interrelationships of the modern world create an essential and vital antithesis between "rugged individualism" and the necessity for coöperative effort —both on the national and the international stage. The solution can only be found by dispassionate thinking and by the working out of effective compromises which will save the major values of both viewpoints. "The unbearable pressure of modern war" makes the discovery of such solution most immediate; and Professor Eagleton dedicates his book "to my son, who also must fight because of mistakes of his elders." He outlines clearly the essentials of an adequate program of international coördination, and the sacrifices we must be prepared to make to render such an organization effective. He says in his final chapter, "the unknown wilds of this continent did not daunt us as we pushed its frontier back; the risks of huge business undertakings and organization have never caused us to hesitate; we are pioneers today in great new fields of science and technical development. The blood of our fathers is still in us, and it surges forward to face the new opportunities that lie ahead."

C.-E. A. WINSLOW

Diabetic Care in Pictures—*By Helen Rosenthal, B.S., Frances Stern, M.A., and Joseph Rosenthal, M.D. Philadelphia: Lippincott,* 1946. 150 pp., 137 illus., 4 in color. Price, $2.00.

If every diabetic could own this book, the time normally spent by physicians, nurses, and detitians in teaching diabetics how to take care of themselves would be greatly reduced. The patients would have constant access to simple but accurate information to guide them in everyday living with others and with their disease. Following the physician's diet prescription would be fun, for diabetics can so easily have wide choice of food and still stay within their prescription. Every step in diet control, use of insulin, follow-up checks on urine, and in the care of their bodies is profusely illustrated, as well as simply described. The reviewer regrets that, in the table showing suggested food allowances, niacin allowance is given in milligrams needed per day, while in the pages showing relative values of foods as sources of niacin, the standard of comparison is expressed in micrograms.

MARTHA KOEHNE

The Venereal Diseases—A Manual for Practitioners and Students—*By James Marshall. New York: Macmillan,* 1946. 348 pp. Price, $4.50.

This book is intended as a manual or textbook for general practitioners and medical students. It is written by an English physician for British medical consumption and this must be borne in mind by the American reader.

The control of the venereal diseases through treatment has undergone remarkable change and particularly in the interim between the time the book was published in 1944 and the present. The use of sulfonamides is stressed in the treatment of gonorrhea rather than penicillin, which is mentioned briefly in the discussion. Rather elaborate treatment schedules with arsenic and bismuth are recommended in the treatment of syphilis with no discussion of the rôle of penicillin.

There are excellent diagrams and pictures throughout the text and these contribute markedly to the readability of the book. An excellent chapter is included on practical instructions as to procedures and technic in office practice.

There is little of the philosophy of the public health control of the venereal diseases and the rôle of the private practitioners in the control program.

There are several points of view expressed by the author which may be debatable, but differences can be resolved by an understanding of some fundamental differences of approach to venereal disease control in Britain and in the U. S. A.

This book should be a valuable addition to the well-rounded library of the American venereologist. J. R. HELLER, JR.

New Worlds in Medicine—*Edited by Harold Ward. New York: McBride,* 1946. 689 pp. Price, $5.00.

The lay editor often discovers gems of medical writing which never find their way into technical journals. Editor Ward has assembled a sparkling collection of such gems in this anthology. It is a worthy companion to his recent anthology, *New Worlds in Science.* Written for the layman, these choice articles have been selected with remarkable discrimination so that technical material is presented in everyday language.

The editor has received inspiration from lectures to the laity published by the New York Academy of Medicine, but he has also made a fruitful search of many books and periodicals not usually seen in physicians' libraries. Excellent continuity has been maintained partly by choice of subjects and partly by the editor's introductory remarks preceding each article. By these means he has been able to display the progress in a given field within its proper historical setting. He has also achieved a balance between technical and social progress with just the right emphasis on preventive medicine. Trends in social medicine appear inevitably attached to progress in technical medicine while technical material is presented with simplicity and interest, but without melodrama. At the conclusion of each subject the reader is left with the feeling that he has learned much about a subject he thought he knew and about which more should have been written.

All of the contributors are eminent in their special fields, yet they write with a simplicity that comes from complete familiarity with the subject. For the sake of the lay reader it is unfortunate that the biographical sketches of contributors are not stronger, and that they are not inserted as a preface to each article. To point out the most outstanding contributors in this anthology would be to detract from an appreciation of all the gems in a total setting.

This is a book that will bring much satisfaction to the health officer and his

staff. For the health educator it will be a stimulating source of reference and of inspiration.

CHARLES E. SHEPARD

Free Medical Care—*Compiled by Clarence A. Peters. The Reference Shelf, Vol. 19, No. 3. New York: H. W. Wilson Company,* 1946. 378 pp. Price, $1.25.

This is a compilation of material on national health insurance. There is a fairly good selection of pro and con opinions with scrupulous adherence to the principle of giving both sides equal space. The title of the volume is most unfortunate since the point at issue is not "free medical care" but prepaid medical care. This confusion is evident in the volume itself and reflects the popular misunderstanding engendered by the use of emotionally charged words like "socialized medicine."

While the book is of little value to the serious student of medical care problems, it may be useful as an introduction to the subject. Its greatest use will be the one for which it is evidently intended, as a convenient reference and debating manual. MILTON TERRIS

Water Bacteriology—*By Prescott, Winslow, and McCrady. New York: Wiley,* 1946. 368 pp. Price, $3.50.

Water bacteriologists welcome the revision of this reference book, which for forty years has been a necessary part of the equipment of the water laboratory. During the fifteen years since the appearance of the previous edition important advances have been made in bacteriologic procedures in sanitary water analysis. While *Standard Methods for the Examination of Water and Sewage* gives the laboratory techniques, it is necessary to interpret the results, and this volume gives the basis for the interpretations.

The revision has been made by the junior author with commendable results. The entire book has been rewritten. The most notable changes are those in connection with the coliform organisms. These chapters are excellently written and all-inclusive. Although some of the methods described are only of local significance, they are and should be included in an adequate discussion.

At first the reviewer wondered at the continued inclusion of tabulated data carried over from earlier editions, but more careful study convinced him that these tables are not only just as good illustrative material as when first published, but also that many of them have never been duplicated. Where new material is available, it has been substituted.

The water bacteriologist and the sanitary engineer again have available an authoritative treatise.

JOHN F. NORTON

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, PH.D.

Hygiene and Sanitation in Company Towns—Have you wondered why so little is written about those radical departures from industrial practice, the miners' welfare and medical care funds? Well, here are some illuminating papers you can't afford to miss if you have any interest whatever over and above your own two-by-four job. Incidentally, you'll get some inkling of the reasons the discussion may have been soft-pedalled.

BOONE, J. T. New Horizons in Industrial Health and Welfare (and two related papers). J.A.M.A. 132, 13:755 (Nov. 30), 1946

This Will Leave You Chastened—Mental hygiene seems to be on every health worker's tongue these days. Before you go off the deep end, too, you might read this discussion of psychoneuroses, psychoses, and psychopathic personalities, just to see how shallow you'll find the water when you dive in. Does a psychoneurosis ever develop into a psychosis? This is only one of a dozen unanswered questions you'll find here.

BOWMAN, K. M. Modern Concept of the Neuroses. J.A.M.A. 132, 10:555 (Nov. 9), 1946.

Where Cruelty Was a Fine Art—"The fruits of experience as prisoners of war in Japanese hands, though abundant, were exceedingly bitter." So begins a stomach-turning account of conditions in Java and Siam prisoners' hospitals. This paper would make salutary reading for those in danger of becoming maudlin over the news accounts of the little people's idolatry of McArthur.

DUNLOP, E. E. Medical Experiences in Japanese Captivity. Brit. M. J. 4474:482 (Oct. 5), 1946.

Good News about Mumps—Pathogenicity of mumps virus decreases on continued passage in the egg, but the antigenicity appears to be maintained—for monkeys, and possibly, for man.

ENDERS, J. F., *et al.* Attenuation of Virulence with Retention of Antigenicity of Mumps Virus after Passage in the Embryonated Egg. J. Immunol. 54, 3:283 (Nov.), 1946.

Trends of Sickness Absenteeism—Sickness and non-industrial accident rates (lasting 8 days or longer) have risen regularly, culminating—in 1945—in male and female rates that have not been equalled. Because of notable increases in nonrespiratory-nondigestive diseases, the frequencies of rheumatic, nervous, circulatory and genitourinary diseases are shown for each sex. There's a lot more.

GAFAFER, W. M. Sickness Absenteeism among Male and Female Industrial Workers during 1945, With a Note on the Respiratory Epidemic of 1945–46. Pub. Health Rep. 61, 45:1620 (Nov. 8), 1946.

Not a Substitute for Proved Treatment — More good — though guarded—news about streptomycin and tuberculosis. It suppresses rather than eradicates TB, but results are encouraging. Large doses are required over a 2 to 4 month period, so treatment should not be started unless a sufficient supply is in sight, and patients who are doing all right without it shouldn't get it.

HINSHAW, H. C., *et al.* Treatment of Tuberculosis with Streptomycin. J.A.M.A. 132, 13:778 (Nov. 30), 1946.

Fluorine Applied to Children's Teeth—During the third year of this study, the permanent teeth attacked were 22 per cent less for the treated than the untreated. This difference is substantially less than for the first two years of this Minnesota research.

KNUTSON, J. W., and ARMSTRONG, W. D. The Effect of Topically Applied Sodium Fluoride on Dental Caries Experience. Pub. Health Rep. 61, 47:1683 (Nov. 22), 1946.

A Plan for Minneapolis—As with most problems, the nearer tuberculosis control comes to being established on a scientific basis, the more clear-cut become the differences of expert opinion. Here you will find a forcefully expressed viewpoint at variance with other workers in the field. It will do you good to read this paper with an open mind, whether or not you are immediately concerned with tuberculosis.

MYERS, J. A. The Establishment and Use of Fundamental Procedures in Tuberculosis Control. Pub. Health Rep. 61, 41:1563 (Nov. 1), 1946.

Good Advice for the Deafened—If you want a hearing aid consult an otologist first, try a number of makes at a Hearing Aid Clinic, try the aid in both quiet and noisy places, buy the instrument you like best, and use it full time, know when to turn it in for a new model.

NASH, C. S. Artificial Aids to Hearing. Am. J. Nurs. 46, 11:763 (Nov.), 1946.

Not To Be Missed—For the good of his own soul, everyone in public health should read this caustic dissertation on respiratory infections—colds, sore throats, grip, virus pneumonias, and the influenzas. Essentially the discussion boils down to this: nothing we teach others to use or use ourselves does good in curing virus infections; advertised cold cures are not worth the powder to blow them you-know-where; and (aside from teaching people the worthlessness of most of the so-called treatments they have come to believe are good for them) there is precious little to be done at present about viral infections, except to go to bed. Influenza A and B are, of course, other matters.

REIMAN, H. A. Viral Infections of Respiratory Tract. J.A.M.A. 132, 9:487 (Nov. 2), 1946.

Profound Words Department—"Until recently what men thought about cancer depended on how ingenious they were, they had not enough facts to constrain them. It has taken decades to trace the natural history of the disease and to uncover the complexities of its occurrence, but now it looms in sharp outline. . . . This is well, for the problem has turned out to be larger than anyone knew."

ROUS, P. Concerning the Cancer Problem. Am. Scientist 34, 4:329 (July), 1946.

It Works on American Rabbits, Too—Antireticular cytotoxic serum was prepared according to the technics evolved by the Russian researchers and its effects were tested upon experimentally produced fractures in rabbits. Much to your surprise, the stuff really did stimulate the healing process.

STRAUS, S., *et al.* Studies on Antireticular Cytotoxic Serum. J. Immunol. 54, 2:151 (Oct.), 1946.

Respect for the Individual—"It is the increasing practice today among pediatricians who are mindful of all the developmental needs of infants to instruct mothers to nurse their own babies and to nurse them when they are hungry." That seems to be enough to tell you about this paper.

TRAINHAM, G., and MONTGOMERY, J. C. Self-Demand Feeding for Babies. Am. J. Nurs. 46, 11:767 (Nov.), 1946.

Health Education and Medical Care Needed—Though Negro maternal mortality rates have been nearly halved in the last two decades, they are still two and a half times the death rate of white mothers. Why? Is it a matter of biologic inheritance, some essentially different obstetrical problem, or contrasting situations of economic and social heritage? You'll find answers here.

WILLIAMS, P. F. Maternal Welfare and the Negro. J.A.M.A. 132, 11:611 (Nov. 16), 1946.

BOOKS RECEIVED

THE HUMAN BODY. By Clifford Lee Brownell and Jesse Feiring Williams. New York: American Book Co., 1946. 310 pp. Price, $1.52.

HYGIENE (4th Ed.). By F. L. Meredith, M.D. Philadelphia: Blakiston, 1946. 838 pp. Price, $4.00.

IF YOU ASK MY ADVICE. By Henry Pleasants, Jr., M.D. Boston: Bruce Humphries, 1946. 110 pp. Price, $2.00.

INFANT AND CHILD IN THE CULTURE OF TODAY. Arnold Gesell, M.D., and Frances L. Ilg, M.D. New York: Harper, 1946. 399 pp. Price, $4.00.

LAMP BULLETIN. Prepared by C. E. Weitz. Cleveland: General Electric (Engineering Div.), 1946. 76 pp. Price, $.40.

LEPROSY (3d Ed.). By Sir Leonard Rogers and Ernest Muir. Baltimore: Williams & Wilkins, 1946. 280 pp. Price, $7.00.

LYMPH (ANNALS, THE NEW YORK ACADEMY OF SCIENCES, Vol. XLVI, Art. 8, pp. 679–882). By Philip D. McMaster, et al. New York: New York Academy of Sciences, 1946.

MANUAL OF APPLIED NUTRITION (2nd Ed.). Baltimore: Johns Hopkins Hospital Dietary Dept., 1946. 103 pp.

MANUAL FOR SCHOOL AND INSTITUTIONAL LUNCH ROOMS (rev.). Cleveland: Ohio Dietetic Assoc., 1946. 222 pp. Price, $2.00. ($1.85 for 3 or more.)

MANUAL OF RECOMMENDED PRACTICE FOR SANITARY CONTROL OF THE SHELLFISH INDUSTRY. (Public Health Bulletin No. 295.) The Surgeon General, USPHS. Washington: U. S. Gov. Ptg. Office, 1946. 44 pp.

MEDICAL USES OF SOAP. By Morris Fishbein, M.D. Philadelphia: Lippincott, 1946. 195 pp. Price, $3.00.

MICROBIOLOGY APPLIED TO NURSING (5th ed.). By Jean Broadhurst, Ph.D., and Leila I. Given, R.N. Philadelphia: Lippincott, 1946. 569 pp. Price, $3.50.

MORTON'S MEMOIR. By W. T. G. Morton. New York: Henry Schuman, 1946. 24 pp. Price, $1.50.

NOTES ON NURSING: WHAT IT IS, AND WHAT IT IS NOT (reprint). By Florence Nightingale. Philadelphia: Lippincott, 1946. 79 pp. Price, $1.25.

NUTRITION AND DIET THERAPY (9th ed.). By Fairfax T. Proudfit and Corinne Hogden Robinson. New York: Macmillan, 1946. 782 pp. Price, $3.75.

NUTRITION FOR YOUNG AND OLD. Albany: New York State Joint Legislative Committee on Nutrition, 1946. 227 pp. Free from Senator Desmond, 94 Broadway, Newburgh, N. Y.

NUTRITION IN PUBLIC HEALTH. By Lucy H. Gillett. Philadelphia: Saunders, 1946. 303 pp. Price, $2.75.

PERSONAL POLICIES FOR PUBLIC HEALTH NURSING AGENCIES. New York: National Organization for Public Health Nursing, 1946. 31 pp. Price, $.75.

PROBLEMS IN ABNORMAL BEHAVIOUR. By Nathaniel Thornton. Philadelphia: Blakiston, 1946. 244 pp. Price, $2.00.

REPORT OF NEW YORK STATE JOINT LEGISLATIVE COMMITTEE ON INDUSTRIAL AND LABOR CONDITIONS. Albany: Williams Press, 1946. 210 pp.

RKG RHEOCARDIOGRAPHY. By W. Holzer, et al. Vienna: Wilhelm Maudrich, 1946. 43 pp.

TEACHING IN SCHOOLS OF NURSING. By Loretta E. Heidgerken. Philadelphia: Lippincott, 1946. 478 pp. Price, $4.00.

THE TOXICITY AND POTENTION DANGERS OF METHYL BROMIDE WITH SPECIAL REFERENCE TO ITS USE IN THE CHEMICAL INDUSTRY, IN FIRE EXTINGUISHERS, AND IN FUMIGATION. By W. F. von Oettingen, USPHS. Washington: Gov. Ptg. Office, 1946. 41 pp. Price, $.15.

TREATMENTS OF BRONCHIAL ASTHMA. By Vincent J. Derbes, M.D., and Hugo Tristram Engelhardt, M.D. Philadelphia: Lippincott, 1946. 466 pp. Price, $8.00.

VICTORY OVER PAIN. By Victor Robinson, M.D. New York: Henry Schuman, 1946. 338 pp. Price, $3.50.

WHAT TEACHERS SEE. By George M. Wheatley, M.D. New York: Metropolitan Life Insurance Co., 1946. 33 pp.

WHAT YOU SHOULD KNOW ABOUT TUBERCULOSIS. By Charles E. Lyght, M.D. New York: National Tuberculosis Assoc., 1946. 30 pp.

ASSOCIATION NEWS

RESOLUTIONS

The following Resolutions were unanimously adopted by the Association at the Seventy-fourth Annual Meeting in Cleveland, Ohio, November 13, 1946.

1. Milton Joseph Rosenau

The Governing Council records with profound sorrow the passing of the President-Elect of the Association, Milton Joseph Rosenau, on April 9, 1946.

For nearly 40 years a member of the Association and a Charter Fellow, Dr. Rosenau served the Association with unique competence and distinction. He served as a member of the Governing Council from 1930 to 1936, as Chairman of the Epidemiology Section in 1939, and as a member of the Sedgwick Memorial Medal Committee from 1933 to 1937. In 1934 he was awarded the Sedgwick Memorial Medal for distinguished service in public health.

As Fellow, as Committee Member, as contributor to the *Journal*, Dr. Rosenau's preeminence as teacher, distinguished author, epidemiologist, and administrator was brought to the service of the Association and the public health ideals for which it exists. We shall long miss the inspiration of his wisdom and of his humanity.

Resolved that this resolution be spread upon the minutes, that copies be forwarded to Dr. Rosenau's family and to the University of North Carolina, and that it be read as the first item of business at the Opening General Session of the 74th Annual Meeting on Tuesday evening, November 12.

6. L. L. Lumsden

The Governing Council has learned with deep regret of the recent death of Dr. L. L. Lumsden.

Long a member of the Association and a pioneer in the field of public health, he was an outstanding figure in epidemiological research and in the development of rural health administration.

During his active professional life extending over a period of more than 40 years, he contributed generously to sanitary science and to legislative enactment in the interest of public health. Through his knowledge and enthusiastic devotion to the fundamental principles of the work which he loved, he was a continuing inspiration to his associates and was responsible for many engaging in a public health career.

Those who knew him and received his kindly guidance will cherish his memory as long as they live.

Resolved that this resolution be spread upon the minutes, that copies be forwarded to Dr. Lumsden's family and to the United States Public Health Service, and that it be read at the Second General Session of the American Public Health Association held in Cleveland, Ohio, November 13, 1946.

7. In Memoriam

Resolved that it is with a sense of irreparable loss that the American Public Health Association records, since its last Annual Meeting, the death of one hundred thirty-eight Fellows and members, the names of whom constitute a part of this resolution.

Louis M. Allyn, M.D., Mystic, Conn., Elected member 1921

Wade H. Anderson, M.D., Wilson, N. C., Elected member 1934

S. Josephine Baker, M.D., Belle Meade, N. J., Elected member 1915, Charter Fellow 1922

Helen Baldwin, M.D., Canterbury, Conn., Elected member 1939

Craig Barrow, M.D., Savannah, Ga., Elected member 1926

Theodore D. Beckwith, Ph.D., Los Angeles, Calif., Elected member 1934.

Arthur S. Bedell, Delmar, N. Y., Elected member 1919

George R. Bedinger, Plainfield, N. J., Elected member 1943

H. S. Berman, M.D., Detroit, Mich., Elected member 1932

Marie I. Bestul, R.N., Minneapolis, Minn., Elected member 1944

Maharaj Mom Chow Bichitr, Bangkok, Siam, Elected member 1929

Benjamin W. Black, M.D., Oakland, Calif., Elected member 1944

Neal E. Blanton, Milwaukee, Ore., Elected member 1942

George E. Bolling, Brockton, Mass., Elected member 1900, Charter Fellow 1923

A. Edward Bostrom, M.D., Albany, Ore., Elected member 1938

George M. B. Bradshaw, M.D., Panama, N. Y., Elected member 1936

William W. Brooke, M.D., Bayonne, N. J., Elected member 1919, Fellow 1925

Severance Burrage, D.P.H., Denver, Colo., Elected member 1897, Charter Fellow 1923

Herbert C. Calvery, Ph.D., Washington, D. C., Elected member 1941

Francis A. Campana, M.D., Union City, N. J., Elected member 1941

Cloyd M. Chapman, Glen Cove, N. Y., Elected member 1941

John A. Connelly, M.D., Trenton, N. J., Elected member 1942

Ernestine Consigny, San Francisco, Calif., Elected member 1931

Ben W. Creel, D.V.M., Mobile, Ala., Elected member 1940

Percy de Stanley, M.D., Union, N. J., Elected member 1931

Jaroslav Drbohlav, M.D., Prague, Czechoslovakia, Elected member 1946

William Dreyfus, D.Sc., New York, N. Y., Elected member 1905

Thomas J. Duffield, New York, N. Y., Elected member 1926, Fellow 1935

C. N. Eisaman, M.D., Pittsburgh, Pa., Elected member 1940

William J. Ellis, Ph.D., Trenton, N. J., Elected member 1928

Harry M. Eudowe, New Haven, Conn., Elected member 1938

Robert C. Farrier, M.D., E. St. Louis, Ill., Elected member 1929, Fellow 1942

John E. Floyd, Asheville, N. C., Elected member 1940

Louis J. Frank, Woodmere, N. Y., Elected member 1924

Elva E. Gore, Springfield, Ill., Elected member 1930

Kathryne Gabriel, R.N., Deposit, N. Y., Elected member 1924

Leroy U. Gardner, M.D., Saranac Lake, N. Y., Elected member 1931, Fellow 1940

Charlotte S. Greenhood, D.D.S., San Francisco, Calif., Elected member 1945

John Grill, M.D., Milwaukee, Wis., Elected member 1935

Don W. Gudakunst, M.D., Westport, Conn., Elected member 1921, Fellow 1927

Blanche M. Haines, M.D., Three Rivers, Mich., Elected member 1920, Fellow 1928

Nell P. Hall, Champaign, Ill., Elected member 1931

Edward E. Hamer, M.D., Carson City, Nev., Elected member 1944

John J. Heagerty, M.D., Ottawa, Ont., Elected member 1937

Jane I. Hershey, Ph.D., St. Louis, Mo., Elected member 1941

Dorothy F. Holland, Ph.D., Bethesda, Md., Elected member 1919, Fellow 1928

Benjamin E. Holsendorf, Ph.D., Staten Island, N. Y., Elected member 1944

Arthur W. Hopper, M.D., Washington, Pa., Elected member 1939

Charles D. Howard, Concord, N. H., Elected member 1913, Charter Fellow 1922

William H. Howell, M.D., Baltimore, Md., Elected member 1919

Edward G. Huber, M.D., Waban, Mass., Elected member 1924, Fellow 1928

P. Conner Hulse, D.D.S., Palmyra, N. J., Elected member 1937

Joseph H. Humphrey, M.D., St. Louis, Mo., Elected member 1925

A. C. Hunter, Ph.D., Washington, D. C., Elected member 1919, Fellow 1930

L. W. Hutchins, New York, N. Y., Elected member 1942

J. Frederick Jackson, Hamden, Conn., Elected member 1914, Charter Fellow 1923

Nehemiah Janko, M.D., New York, N. Y., Elected member 1937

Fred H. Jennings, Watertown, N. Y., Elected member 1908

Hiram A. Jones, Ph.D., Albany, N. Y., Elected member 1945

Harry L. Kadet, Brooklyn, N. Y., Elected member 1944

Forrest A. Kelley, M.D., Winfield, Kans., Elected member 1938

Thomas Kelly, V.M.D., Philadelphia, Pa., Elected member 1929

Walter Kleberg, M.D., Galveston, Tex., Elected member 1930

Lt. Peter J. Knaus, Sn.C., APO, New York, N. Y., Elected member 1943

Marie E. Kopp, Ph.D., New York, N. Y., Elected member 1938

Pauline E. Kuehler, Whiting, Ind., Elected member 1942

Waller S. Leathers, M.D., Nashville, Tenn., Elected member 1910, Charter Fellow 1922

William Litterer, M.D., Nashville, Tenn., Elected member 1926, Fellow 1934

Major William H. Lloyd, Mt. Victoria, Md., Elected member 1919

D. B. Lowe, M.D., Akron, Ohio, Elected member 1915, Charter Fellow 1922

Burton Lowther, Denver, Colo., Elected member 1935

Letitia E. Lynch, Merced, Calif., Elected member 1932

Elin MacDougall, Bridgeport, Conn., Elected member 1944

Ward J. MacNeal, M.D., New York, N. Y., Elected member 1920

Frank L. McGahey, M.D., Grenada, Miss., Elected member 1943

Bernard T. McGhie, M.D., Toronto, Ont., Elected member 1936

J. J. McGrath, Salem, Mass., Elected member 1917, Charter Fellow 1922

Thomas W. G. McKay, M.D., Oshawa, Ont., Elected member 1942

Thomas T. McKinney, M.D., Denver, Colo., Elected member 1932

William R. Martin, M.D., Charlotte Court House, Va., Elected member 1943

Mrs. C. Mayfield, New Orleans, La., Elected member 1925, Fellow 1941

Fred M. Meader, M.D., Kalamazoo, Mich., Elected member 1912, Charter Fellow 1922

Sumner M. Miller, M.D., Peoria, Ill., Elected member 1935, Fellow 1942

Frederick B. Miner, M.D., Flint, Mich., Elected member 1940

Gordon B. Moffat, M.D., Kalamazoo, Mich., Elected member 1931

Jesus E. Monjaras, M.D., Mexico City, Mex., Elected member 1891, Charter Fellow 1923 and Honorary Fellow 1935

Jose D. Moral, M.D., Guayaquil, Ecuador, Elected member 1926

William R. Munson, M.D., Westport, Conn., Elected member 1944

Arthur L. Murray, M.D., Washington, D. C., Elected member 1920

Horace Newhart, M.D., Minneapolis, Minn., Elected member 1930

N. Estes Nichols, M.D., Portland, Me., Elected member 1911

Walter H. Oglesby, Clovis, N. M., Elected member 1945

Fridgeir Olason, M.D., Boston, Mass., Elected member 1943

J. Earle Parker, Waban, Mass., Elected member 1944

Francis D. Patterson, M.D., Philadelphia, Pa., Elected member 1913, Charter Fellow 1922

Inez Patterson, New York, N. Y., Elected member 1944

J. Allan Patton, M.D., Newark, N. J., Elected member 1920

William C. Pauli, M.D., Cincinnati, Ohio, Elected member 1930

Eugene C. Peck, M.D., Leonardtown, Md., Elected member 1932

Robert E. Perdue, M.D., Norwalk, Conn., Elected member 1940

Rosemary Phillips, R.N., St. Louis, Mo., Elected member 1939

Claude C. Pierce, M.D., New York, N. Y., Elected member 1942

Alva S. Pinto, M.D., Omaha, Nebr., Elected member 1928

Barbara S. Quin, New York, N. Y., Elected member 1929

Mazÿck P. Ravenel, M.D., Columbia, Mo., Elected member 1897, Charter Fellow 1922

Maurice H. Rees, M.D., Denver, Colo., Elected member 1938

Milton J. Rosenau, M.D., Chapel Hill, N. C., Elected member 1909, Charter Fellow 1922

Randle C. Rosenberger, M.D., Philadelphia, Pa., Elected member 1915, Charter Fellow 1923

George W. Ross, M.D., Port Ewen, N. Y., Elected member 1935

H. R. Ross, M.D., Topeka, Kans., Elected member 1928

Onal A. Sale, M.D., Neosho, Mo., Elected member 1938

George L. Salisbury, M.D., Wiskford, R. I., Elected member 1931, Fellow 1934

Ruby S. Sandall, Tremonton, Utah, Elected member 1945

Jose M. Santiago, M.D., Vega Bajo, P. R., Elected member 1944

Francisco Sein, M.D., Laras, P. R., Elected member 1944

Sister Zoe Schieswohl, R.N., Carville, La., Elected member 1937

Hyman I. Spector, M.D., St. Louis, Mo., Elected member 1932

Margaret I. Stanford, R.N., Charleston, S. C., Elected member 1928

A. H. Stewart, M.D., Harrisburg, Pa., Elected member 1939

George G. Taylor, M.D., Elkhart, Ill., Elected member 1943

Willis C. Templer, M.D., Corning, N. Y., Elected member 1936

Paul A. Teschner, M.D., Chicago, Ill., Elected member 1943
Alexander L. Thomson, Wishaw, Scotland, Elected member 1930
Caroline Tillinghast, R.N., Albany, Ga., Elected member 1937
Edward F. Timmins, M.D., South Boston, Mass., Elected member 1944
Myron T. Townsend, Ph.D., Bloomington, Ill., Elected member 1938
Smith L. Turner, M.D., Williston, Fla., Elected member 1945
Charles Urbach, M.D., Philadelphia, Pa., Elected member 1941
Cornelia van Kooy, R.N., Madison, Wis., Elected member 1934
James B. Vaughn, M.D., Castlewood, S. D., Elected member 1934
Groesbeck Walsh, M.D., Fairfield, Ala. Elected member 1937
Mortimer Warren, M.D., Portland, Me., Elected member 1942
William C. Welling, Hartford, Conn., Elected member 1923, Fellow 1934
Stafford M. Wheeler, M.D., Bethesda, Md., Elected member 1939, Fellow 1942
Fred A. Wiggers, Toledo, Ohio, Elected member 1940
William F. Wild, M.D., Jackson Heights, N. Y., Elected member 1927, Fellow 1931
Margaret B. Wilson, Washington, D. C., Elected member 1915
Verne L. G. Wilt, D.D.S., Los Angeles, Calif., Elected member 1940

8. School Lunch Programs

WHEREAS, the great stimulus to school meal programs provided through the passage of the National School Lunch Act of 1946 does not of itself assure that the potential benefits of school meals will accrue to all children attending school, be it

RESOLVED that the American Public Health Association encourage the establishment of school lunch programs according to accepted standards; encourage efficient administration of school meals from all aspects, nutritional, sanitary, educational, and economic; and encourage carefully controlled studies of the effect of school meals on nutritional status and home feeding practices.

9. Equal Opportunity for Public Health Personnel

WHEREAS the public health profession is keenly aware of the fact that disease knows no boundaries of state or nation, of economic status, of race, color or creed, and

WHEREAS, one of the fundamental objectives of the Association is to foster a high professional standard for all workers in public health and to strive for the recognition of workers solely on the basis of their professional qualifications and capabilities, therefore be it

RESOLVED that the American Public Health Association endorse the thesis of equal opportunity for everyone in the field of public health and recommends a program of equal opportunities for employment, professional advancement and salaries in all activities of the public health profession regardless of race, color, or creed.

10. Appreciation to the Committee on Constitution and By-Laws

RESOLVED that the American Public Health Association express its grateful appreciation to the Committee on Constitution and By-Laws for the spirit in which it has undertaken the very important and time-consuming task of revision of the Constitution and By-Laws. Specifically, appreciation is expressed to members of the committee: Drs. Haven Emerson, Franklin Foote, Charles E. Shepard, and especially the *Chairman,* Dr. Edward S. Godfrey, Jr.

11. Approval of Formation of the World Health Organization

WHEREAS, the attainment by all peoples of the maximum in health is the ultimate goal of all public health workers and,

WHEREAS, uncontrolled disease, espe-

cially communicable disease, in less favored countries is a common danger, and

WHEREAS, in many parts of the world there has been continued physical, mental, and social illness, and

WHEREAS, the attainment of world peace is to a considerable extent dependent upon the attainment of world health, and

WHEREAS, 61 countries have recently signified their interest in the development of the World Health Organization by the signing of the Constitution presented to the World Health Conference in New York City in July, 1946, therefore be it

RESOLVED that the American Public Health Association go on record as giving wholehearted approval to the formation of the World Health Organization and urge the immediate ratification of the Constitution of the World Health Organization by the Congress of the United States of America and by appropriate legislative bodies of those countries that have not already taken such action.

12. DEVELOPMENT OF BLOOD DONOR PROGRAMS

WHEREAS, human blood is assuming an increasingly important place in the treatment of disease and the saving of life;

WHEREAS, the value of this product is in proportion to its availability and adequacy of supply in any given locality;

WHEREAS, the American National Red Cross is prepared to assist in the creation and maintenance of statewide and community blood donor programs to make human blood available to all elements of the community through members of the medical profession;

WHEREAS, such programs are undertaken only under the sponsorship of official health departments, medical societies, or hospital agencies; and

WHEREAS, concerted community effort is essential for the success of the blood donor program, a program which will be of immeasurable assistance to the medical profession in meeting the health needs of the people; now, therefore be it

RESOLVED that the American Public Health Association go on record as endorsing the participation of the American National Red Cross and its recognized chapters in state-wide and community blood donor programs; and be it further

RESOLVED that the American Public Health Association encourage the development and maintenance of statewide and community blood donor programs through which human blood may be made readily available without charge for the product to persons who require it.

13. EARLY REPORTING OF MALIGNANT TUMORS

RESOLVED that the American Public Health Association endorse the principle of the early reporting of malignant tumors by physicians, hospital and diagnostic laboratories to the health department where the department is prepared to tabulate and analyze the material which would come in through these reports as an important step toward better understanding and control of cancer.

THE RECIPIENTS OF THE LASKER AWARDS FOR 1946

Individual Awards—Left to right: First row: Dr. John Friend Mahoney, Dr. Alfred Newton Richards, Dr. George Baehr; Second row: Dr. Alexander S. Wiener, Dr. Carl Ferdinand Cori, Dr. Philip Levine.

The Lasker Awards for 1946 were conferred by the American Public Health Association on November 12, 1946, at the Opening General Session of the 74th Annual Meeting in Cleveland, Ohio, upon the following individuals and for the achievement noted:

DR. CARL FERDINAND CORI—For research in the rôle of anterior pituitary, insulin and hexokinase in carbohydrate metabolism.

DR. KARL LANDSTEINER (posthumously), DR. ALEXANDER S. WEINER and DR. PHILIP LEVINE—For research in the Rh factor.

DR. JOHN F. MAHONEY—For research in the penicillin treatment of syphilis.

DR. ALFRED NEWTON RICHARDS—For organization and administration of the Committee on Medical Research of the Office of Scientific Research and Development.

DR. FRED L. SOPER—For organization of eradication campaigns against yellow fever and malaria.

The following groups were cited for the achievement noted:

THE ARMY EPIDEMIOLOGICAL BOARD—For distinguished service in the control of infectious diseases, bringing a permanent enrichment to medical science.

DR. FRANCIS G. BLAKE was the recipient of the award on behalf of the group.

Group Citations—Left to right: Dr. R. E. Dyer, Dr. G. E. Hilbert, Dr. Francis G. Blake, Dr. Fred C. Bishopp, Dr. George Baehr.

THE BOARD FOR THE COÖRDINATION OF MALARIAL STUDIES—For accomplishments leading to a rational approach to the eventual solution of the malaria problem.

THE BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE—In recognition of distinguished service in the solution of problems involving the health and comfort of the Armed Forces, with particular reference to insect-borne diseases.

DR. FRED C. BISHOPP was the recipient of the award on behalf of the group.

THE NATIONAL INSTITUTE OF HEALTH—In recognition of its fundamental contributions to the prevention and control of disease.

DR. R. E. DYER was the recipient of the award on behalf of the group.

THE NORTHERN REGIONAL RESEARCH LABORATORY—For studies leading to the mass production of penicillin.

DR. G. E. HILBERT was the recipient of the award on behalf of the group.

RESTATEMENT OF POLICY OF THE ENGINEERING SECTION

The Engineering Section of the American Public Health Association adopted the following statement of policy at the Annual Meeting in Cleveland, November 12, 1946:

"The Engineering Section Council proposes that the following statement of policy be adopted by the Section:

1. That the scope of activity of the Engineering Section shall include all technical and professional interests in the field of environmental health.

2. That the Section Council shall coöperate with other public health engineering and sanitation groups seeking some practical medium of effort to unify and further the interests of all workers, and to that end each state or group of states in which an organization of workers in environmental health, recognized as such by the official state health agency, shall be invited to designate a representative of that group to be a member of an advisory

policy committee to the Engineering Section Council.

3. That the Section Council shall further explore the field of environmental health as a basis for such changes and modifications in Section activity as may be *desirable* to achieve its greatest usefulness in all phases of sanitation and the Section Council shall submit a report of its findings at the next annual meeting.

It further proposes that membership of the Section shall be informed regarding this action."

Through this announced policy the Engineering Section hopes to provide the needed professional representation for all categories of workers in the field of sanitation.

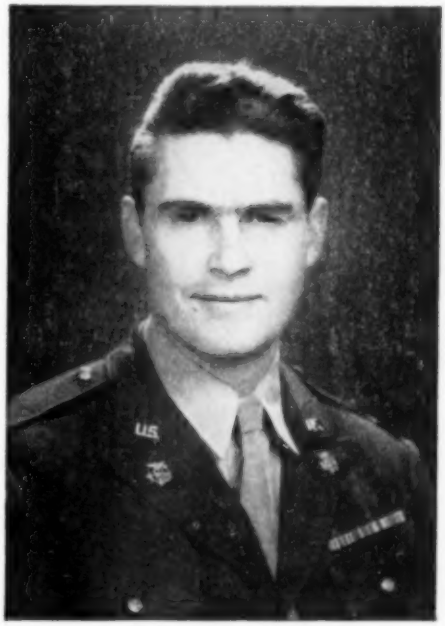
This statement is considered particularly timely by many members of the Section and the Association as a whole as positive action toward unification of the interested groups in the field of environmental sanitation. The decision of the Engineering Section also comes at a time when the Association is in a particularly fortunate position for contributing to the exploratory work called for by the work already undertaken by Francis B. Elder, Engineering Associate, and through his continued services and those of Lt. Colonel William T. Ingram, now on terminal leave from the U. S. Public Health Service, who has recently joined the staff of the Association as Engineering Field Associate.

LT. COL. WILLIAM T. INGRAM APPOINTED ENGINEERING FIELD ASSOCIATE FOR A.P.H.A. STAFF

The Executive Board of the American Public Health Association has appointed Lt. Col. William T. Ingram, U.S.P.H.S., of Berkeley, Calif., as Engineering Field Associate.

As pointed out in the report *Local Health Units for the Nation,* by Dr. Haven Emerson and the committee, there is a need for more than 1,000 additional public health engineers to meet even minimum requirements in the field of environmental health. The need for professional leadership in this field has been recognized as a paramount problem by the Engineering Section Council and the Association's Committee on Professional Education. Consequently the Section Council with the approval of the Executive Board has undertaken a field project to explore the problems related to sanitary and public health engineering with a view toward:

1. More adequate provision of needed personnel employed in the sanitation of the environment
2. Establishing the engineer in a position of greater usefulness to the administrator
3. Developing sanitary engineering and public health engineering as professional careers offering attractive opportunities to young men now entering our colleges and universities
4. Stimulating universities to the expansion



William T. Ingram

of undergraduate and graduate curricula which will prepare the student for his professional engineering rôle

5. Improving and broadening the environmental health services in all of the functional fields in keeping with state and community requirements

Col. Ingram brings to the Association a wide range of experience, including design, construction, surveying, stream pollution investigation and works maintenance. His public health experience includes work at local, state, national, and international levels with the San Joaquin Local Health District, State of California, U. S. Public Health Service, and United Nations Relief and Rehabilitation Administration.

Through his membership in professional associations he has developed a wide acquaintance with the sanitation field. He is a Fellow of the American Public Health Association and past chairman of the Municipal Public Health Engineering Committee, Engineering Section; Associate Member, American Society of Civil Engineers; Member, Federation of Sewage Works Associations, and past secretary of the California Sewage Works Association; Member, American Water Works Association; Member and past chairman, Conference of Municipal Public Health Engineers. Col. Ingram is a Registered Civil Engineer in the State of California.

He received his A.B. in Civil Engineering at Stanford University and his Master of Public Health at Johns Hopkins University.

The field project has been underwritten for a period of two years by the National Foundation for Infantile Paralysis through funds from their March of Dimes, and by a group of sanitary engineering industries.

APPLICANTS FOR MEMBERSHIP

The following individuals have applied for membership in the Association. They have requested affiliation with the sections indicated.

Health Officers Section

S. E. Ferreira, M.D., D.P.H., Island Medical Officer, Kingston, Jamaica, B.W.I., Asst. Director, Medical Services, Government Medical Service

Hossein Hafezi, M.D., D.T.M., 124 Shahine Ave., Kakh, Tehran, Iran, Director, Dept. of Vital Statistics and Health Education, Ministry of Health

J. A. Haney, M.D., 428 Market St., Steubenville, Ohio, Health Commissioner, Jefferson County Health Dept.

Robert F. Hansen, M.D., M.P.H., 620 S. 3rd St., Louisville 2, Ky., Surgeon (R), U. S. Public Health Service

Robert E. Harper, M.D., 603 E. 4th St., Tuscumbia, Ala., Colbert County Health Officer

Julius G. Hart, Jr., M.D., 67 Myrtle Ave., Westport, Conn., Health Officer

Charles R. Hayman, M.D., 414 S. State St., Dover, Dela., Deputy State Health Officer

Clair A. Henderson, M.D., 23 E. Charlton, Savannah, Ga., Health Officer

G. Lilian Hutton, M.B., Okanagan Valley Health Unit, Kelowna, B. C., Canada, Director

Joseph P. Kesler, M.D., 470 13th St., Ogden, Utah, District Health Officer

Thomas Lindsay, British Embassy, 3400 Massachusetts Ave., Washington 8, D. C., Asst. Secretary, Ministry of Health

Robert L. Loftin, M.D., Bay County Dept. of Health, Bay City, Mich., Director

Dennys L. Lyall, Government Health Inspector, P. O. Bindura, Southern Rhodesia

Athanasios G. Mandekos, M.D., M.P.H., Kyrillou Loukareos 4, Athens, Greece, Asst. Professor, Athens School of Hygiene

Paul W. McCracken, M.D., 219 East Oregon Ave., Phoenix, Ariz., Director, Maricopa County Health Unit

John R. Philp, M.D., 41 Edgewater Rd., P. O. Box 507, Nantasket Beach, Mass., Student, Harvard School of Public Health

Marjorie Rowntree, M.D., 624 East Jefferson St., Louisville, Ky., Director, East Louisville Health Center, Louisville and Jefferson County Health Dept.

Anton J. Schramel, M.D., City Hall, Room

613, Milwaukee, Wis., Deputy Commissioner of Health

Cecil G. Sheps, M.D., 15 Dwight St., New Haven, Conn., Student, Yale School of Medicine, Dept. of Public Health

Leland W. C. Sturgeon, M.D., D.P.H., 120 King St., Welland, Ont., Canada, Director and Medical Officer, Welland District Health Unit

V. L. Van Duzen, M.D., 150 Mill, Big Rapids, Mich., Director, Mecosta-Osceola Health Unit

Edwin S. Warrell, 14 Main St., Hingham, Mass., Exec. Health Officer, Health Dept.

Laboratory Section

Chester W. Anderson, 2223 Grant Ave., Rockford, Ill., Laboratory Director, Rockford Health Dept.

E. Lawrence Barton, M.D., Provincial Dept. of Health, Div. of Laboratories, Toronto 2, Ont., Canada, Director of Laboratories

Pedro P. Chanco, Jr., M.D., 522 San Antonio St., Paco, Manila, Philippines, Malariologist, U. S. Public Health Service

Raymond E. Daniels, 126 Erie Rd., Columbus 2, Ohio, Chief Bacteriologist, State Dept. of Health

Irving M. Derby, M.D., 529 Church St., Newark, N. Y., Director of Clinical Laboratory, Newark State School and Wayne County

Marvin W. Edwards, 2738 N. Grand River, Lansing 6, Mich., Public Health Bacteriologist, State Dept. of Health

William F. Elias, Ph.D., 6302 Morton St., Philadelphia 44, Pa., Technical Director, Penicillin Division, Wyeth, Inc.

Andrew R. Fodor, M.S., 90–79 Sutphin Blvd., Jamaica, N. Y., Technical Supervisor, Warren Medical Laboratories

George T. E. Lloyd, 190 St. George St., Toronto, Ont., Canada, Asst. Bacteriologist, Laboratory Division, Dept. of Health, Province of Ontario

Donald K. Hesson, M.A., 1443 Mulford Rd., Columbus, Ohio, Chief of Water Bacteriology, Ohio Dept. of Health

Guido Iannarelli, 507 Nancy St., Charleston, W. Va., Senior Bacteriologist, West Virginia Hygienic Laboratory

Morris T. Jones, Ph.D., 2542 Forest Place, East St. Louis, Ill., Bacteriologist, Automatic Canteen Co. of America

Russell P. Knerr, Swiftwater, Pa., Director, Biological Division, National Drug Co.

Mary Jane Knisely, State Dept. of Public Health, Carbondale, Ill., Bacteriologist

Walter E. Machala, 411 N. Classen, Britton, Okla., Serologist, State Health Dept.

Jacques Olivier, M.D., Hospital St. Vincent de Paul, Sherbrooke, Que., Canada, Director of Laboratories

Joseph J. Portley, 1119 Hillside Ave., Plainfield, N. J., Formerly Bacteriologist, Dept. of Health

Clifford W. Price, 4803 27th Rd. South, Arlington, Va., Bacteriologist, U. S. Food and Drug Administration

Roger D. Reid, Ph.D., 5 Park Drive, Baltimore 7, Md., Bacteriologist, Hynson, Westcott and Dunning

Merrill L. Riehl, 380 Garden Rd., Columbus 2, Ohio, Chief Chemist, State Dept. of Health

Walter A. Rugh, Rt. 2, Box 893A, Walnut Creek, Calif., Owner of Clinical Laboratory

John M. Sharpley, Froehling & Robertson, Inc., P. O. Box 737, Richmond, Va., Bacteriologist and Physiological Chemist

Dorothea M. Slater, Glenbrook Quaker Farms, Oxford, Conn., Asst. Chemist, New Haven Water Co.

Joseph E. Smadel, M.D., Army Medical Center School, Washington 12, D. C., Scientific Director, Div. of Virus and Rickettsial Diseases

Lorena J. Thierbach, 2510 Van Vess Ave., San Francisco 9, Calif., Bacteriologist, San Francisco Dept. of Public Health

Juanita J. Warner, 71 Quincy St., Rochester 9, N. Y., Bacteriologist, Rochester Health Bureau Laboratories

Dixie M. Woodburn, P. O. Box 1498, Ketchikan, Alaska, Bacteriologist, Territorial Dept. of Health

Vital Statistics Section

Vivian B. Holland, 436 W. Wilson St., Madison, Wis., Director, Central Statistical Services Div., State Board of Health

Elsie B. Hyatt, P. O. Box 210, Jacksonville, Fla., Administrative Asst., Bureau of Vital Statistics, State Board of Health

H. Lukin Robinson, 200 Stewart St., Ottawa, Ont., Canada, Statistician, Dominion Bureau of Statistics

Walter Schilling, M.D., Stanford University Hospital, San Francisco 15, Calif., Biometrist and Statistician

Rose C. Willcox, 10402 St. Clair Ave. 211, Cleveland 8, Ohio, Principal Clerk and Deputy Registrar, Bureau of Vital Statistics, Dept. of Health

Louise Y. Workman, 445 Beaumont Ave., Charlotte, N. C., Vital Statistician, City Health Dept.

Engineering Section

Elton J. Braddock, 4410 45th Ave., South,

Seattle 8, Wash., Sanitation Inspector, Seattle Health Dept.

James G. Brown, 116 N. Michigan Ave., Hastings, Mich., Public Health Engineer, Barry County Health Dept.

Hal F. Daniels, Box 243, Manteo, N. C., Sanitarian, State Board of Health

Russell C. Evans, D.V.M., Health Dept., Racine, Wis., Chief, Food and Sanitation

Frank W. Hays, Jr., 860½ 24th Ave., N., St. Petersburg, Fla., Chief of Sanitation, Pinellas County Health Dept.

William Hogan, 150 Glenarm St., Pasadena, Calif., Owner, U. S. Termite Control Corp., Ltd.

James G. Livingston, 104–35 102nd St., Ozone Park 16, N. Y., Health Inspector, New York City Dept. of Health

Clarence M. Moss, Sub-Treasury Bldg., Wall-Nassau-Pine, New York 5, N. Y., S. A. Sanitarian (R), U. S. Public Health Service, District No. 1

Leonard M. Pratt, 52 E. St. Charles Rd., Villa Park, Ill., Sanitary Engineer, DuPage County Health Dept.

Edward L. Stockton, 218 E. Erie, Albion, Mich., Acting Engineering Director, Calhoun County Health Dept.

Charles O. Stoy, 778 N.W. 42nd St., Miami, Fla., Dairy Sanitarian, Dade County Health Dept.

Ralph L. Tarbett, 5 Stockton Rd., Silver Spring, Md., Public Health Engineer, Montgomery County Health Dept.

Guy M. Tate, Jr., M.S., P. O. Box 2591, Birmingham, Ala., Director, Bureau of Sanitation, Jefferson County Board of Health

Joseph S. Taylor, 2614 Lincoln Ave., Richmond, Va., Chemical Engineer, Bureau of Sanitary Engineering, State Dept. of Health

Emilio Tourn, M.S., Baez 495, Montevideo, Uruguay, S.A., City Sanitary Engineer

Harry H. Utes, 510 Court St., The Dalles, Ore., Senior Sanitarian, Wasco-Sherman-Hood River County Health Depts.

George A. West, 5 Mile Line Rd., East Rochester, N. Y., Supervisor, Div. of Food and Sanitation, Rochester Health Bureau

Karol Stanley Wisnieski, 159 Willard St., Devencrest, Ayer, Mass., District Sanitary Officer, State Dept. of Public Health

Industrial Hygiene Section

Margaret E. Gallagher, R.N., Kansas, Ohio, Industrial Nurse, France Stone Co.

Dolor John Lauer, M.D., 5252 Beeler St., Pittsburgh 17, Pa., Fellowship in Industrial Medicine, University of Pittsburgh

Peter P. Leone, M.D., 27 Princeton Rd., Elizabeth, N. J., Plant Physician, Standard Oil Co. of New Jersey

Ronald M. P. Lockyer, 1026 Niles St., Bakersfield, Calif., Instructor in Public Health, Boy Scouts of America

Charles M. McGill, M.D., M.P.H., 1022 S.W. 11th, Portland 5, Ore., Director, Division of Industrial Hygiene, Oregon Board of Health

Karel Charles Pur, M.D., 27 Udolni, Brno, Czechoslovakia, Chief, Medical Staff, State Injury Insurance Office

Irving R. Tabershaw, M.D., 10 Rockefeller Plaza, New York, N. Y., Regional Medical Director, Loss Prevention Dept., Liberty Mutual Insurance Co.

Food and Nutrition Section

Mary G. Cameron, 1790 Broadway, New York 19, N. Y., Consumer Service Director, The Public Health Committee of the Paper Cup and Container Institute

Lester C. Neer, D.V.M., 304 Bellemonte, Middletown, Ohio, Chief, Division of Food and Sanitation, Health Dept.

Elbert M. Shelton, Ph.D., 2000 W. 14th St., Cleveland 13, Ohio, Research Director, The Baker Laboratories, Inc.

Maternal and Child Health Section

Ruth O. Blakeslee, Children's Bureau, Washington, D. C., Director, Merit System Unit

T. N. Laporte, M.D., D.P.H., 4235 Fabre, Montreal, Que., Canada, Asst. Director of Child Hygiene, City of Montreal

Public Health Education Section

Mary C. Best, M.S.P.H., 5508 S. Greenwood, Chicago 37, Ill., Asst. Health Educator, U. S. Indian Service

Fred T. Brown, M.S., 407 7th Ave., N., Nashville, Tenn., Director, Division of Health Education, State Dept. of Health

Sylvia C. Davis, 97 Miami Ave., Columbus, Ohio, Health Education Worker, Columbus Tuberculosis Society

Dorothy F. Dunn, M.S.P.H., 419 Campbell, Joliet, Ill., Health Educator, Will County Health Dept.

Gertrude M. Hall, 1411 Crescent St., Suite 401, Montreal, Que., Canada, General Secy., Canadian Nurses Assn.

Edward Huberman, Ph.D., 6 Tauxemont Rd., RFD 1, Alexandria, Va., Chief, Editorial Section, U. S. Public Health Service

Babette S. Jennings, 707 Fullerton Ave., Chicago, Ill., Director of Out Patient Dept. & Social Service, Children's Memorial Hospital

Johnnie Mae Lea, M.S.P.H., Boone County Health Dept., Madison, W. Va., Public Health Educator

Lucy E. Little, R.N., 79–34 Elks Rd., Elmhurst, L. I., N. Y., Student, New York University

Josafina Maldonado, M.S.P.H., 119 Reina St., Ponce, Puerto Rico, Public Health Educator, Dept. of Health

William A. Mason, M.D., 81 Beers St., New Haven, Conn., Graduate Student, Yale School of Public Health

Addison D. Owings, M.S., 3300 Pearl St., Hattiesburg, Miss., Assoc. Professor of Health, Mississippi Southern College

E. Martin Paul, 378 The Arcade, Cleveland 14, Ohio, Co-Director, Ohio Foot Health Council

David L. Piper, M.S.P.H., 1022 S. W. 11th Ave., Portland 5, Ore., Health Information Consultant, State Board of Health

Isaac I. Simon, 45 Fountain St., New Haven, Conn., Student, Yale Medical School, Dept. of Public Health

Esther E. Sweeney, R.N., 410 West 24th St., New York 11, N. Y., Field Representative, American Social Hygiene Assn.

Gertrude F. Tenney, 1086 Whitney Ave., Hamden, Conn., Student, Yale Medical School, Dept. of Public Health

Geneva K. Watson, 1219 Gordon Ave., Charlottesville, Va., Teacher

Gracie R. Wilkes, 2237 E. 81st St., Cleveland 3, Ohio, Public Health Nurse, Cleveland Health Dept.

Dorothy A. Worose, 311 E. 44th St., Long Beach 5, Calif., Graduate Student, Univ. of California, School of Public Health

Public Health Nursing Section

Rose T. Amos, R.N., Rt. 1, Box 203, Corpus Christi, Tex., Junior Staff Nurse, City-County Health Unit

Lila A. Anderson, 128 E. Edenton, Raleigh, N. C., Senior Asst. Nurse Officer, U. S. Public Health Service

Ruby T. Beetham, 15322 Lake Ave., Lakewood 7, Ohio, Chairman, Health Program, Eliza Jennings Home

Catherine C. Brophy, M.A., 75 Washington St., Port Chester, N. Y., Asst. Professor of Nursing Education, St. Johns University, Brooklyn, N. Y.

Marion E. Compton, 904 West Green St., Urbana, Ill., Staff Nurse, Champaign-Urbana Public Health Dist.

Lillian Davidson, R.N., 92 Hawthorne St., Brooklyn 25, N. Y., Student, New York University

Isadora Denike, M.P.H., R.N., Meharry Medical College, Nashville 8, Tenn., Instructor of Public Health Nursing

Catherine E. Denning, B.S. in N., R.N., 56 Hillhouse Ave., New Haven, Conn., Student, Yale University

Eileen Downey, R.N., 607 E. Ann, Ann Arbor, Mich., Clinical Supervisor and Instructor in Obstetrics and Social Problems, St. Joseph Hospital

Ovidia T. Evensen, M.N., 7934 Normile, Dearborn, Mich., Supervisor, Wayne County Health Dept.

Alice M. Fay, M.S., Incarnate Word College, San Antonio, Tex., Assoc. Professor of Public Health Nursing

Marjorie E. Gibson, R.N., M.S.P.H., 1105 S. Sixth St., Springfield, Ill., Asst. Supervisor, Nursing Services, Division of Services for Crippled Children

Elizabeth Ann Groff, Community Health Society, Swarthmore, Pa., Director and Supervising Nurse

Anne Gruenbaum, R.N., 66 Ft. Washington Ave., Apt. 32, New York 32, N. Y., Student, New York University

Jeannette C. Hansen, R.N., 7115 10th Ave., Brooklyn 28, N. Y., Public Health Nurse, New York City Dept. of Health

Mary F. Hart, R.N., 153 Lansdale Ave., Fairfax, Calif., School Nurse and Health Supervisor, Petaluma City Schools

Leona Kerby, 101 W. Third St., Dayton 2, Ohio, Tuberculosis Supervisor, Dayton Division of Health and Visiting Nurse Assn.

Louise Kincaid, 431 W. Union St., Gainesville, Fla., Director of Nursing, Alachua County Health Unit

Mary J. Knapp, R.N., 45 Detroit, Akron, Ohio, Supervisor, Out-Patient Dept., St. Thomas Hospital

Elsie B. Kocher, 10 Chestnut St., Albany, N. Y., Consultant Public Health Nurse (Tuberculosis), State Dept. of Health

Elva M. Lewis, 2438 Haverhill Drive, Los Angeles 41, Calif., Tuberculosis Nursing Consultant, Los Angeles County Health Dept.

Ethel P. Lynn, R.N., Lawrence-Douglas County Health Dept., Lawrence, Kans., Public Health Nurse

Frances M. Michie, Dept. of Public Health, Boise, Ida., Orthopedic Nurse Consultant

Josephine H. Moore, State Dept. of Health, Montgomery, Ala., Assoc. Public Health Nurse

Mary G. Patterson, M.S., R.N., 318 2nd Ave., New York, N. Y., Teacher of Home Nursing, City Board of Education

Lucy C. Perry, M.A., 3632 Detroit, Toledo 12, Ohio, School Nursing Supervisor, Toledo Health Dept.

Georgina J. Reid, 5716 Schaeffer Rd., Dearborn, Mich., Director of Nurses, Wayne County Dept. of Health

Hazel Segner, 374 Delaware Ave., Buffalo, N. Y., Asst. Director, Buffalo Visiting Nurse Assn.

Elizabeth C. Stobo, Garrison, N. Y., Asst. District Supervising Nurse, State Dept. of Health

Iva Torrens, M.A., 826 Westcott St., Syracuse, N. Y., Instructor, Dept. of Public Health Nursing, Syracuse University

Ruth A. Wilbur, 1732 N. 73rd St., Milwaukee 13, Wis., Supervising Nurse, West Milwaukee Health Dept.

Epidemiology Section

Robert W. Babione, M.D., Bureau of Medicine and Surgery, Navy Dept., Washington 25, D. C., Head of Sanitation and Health Branch, Preventive Medicine Division

Martin M. Cummings, M.D., 215 Bradley Ave., Mt. Vernon, N. Y., Senior Asst. Surgeon, U. S. Public Health Service

Morton H. Edelmon, M.D., 1070 Park Ave., New York 28, N. Y., Parasitology, Mt. Sinai Hospital

Thaddeus M. Koppa, M.D., M.P.H., 3229 Westminster, Dallas, Tex., Formerly, Director, Bureau of Epidemiology, Michigan Dept. of Health

Richard W. Linton, Ph.D., 240 Hornby Rd., American Express Co., Bombay, India, Special Representative, Lederle Laboratories, Inc.

Aurelio Malaga, 2115 "O" St., N.W., Washington, D. C., Professor of Epidemiology, Veterinary Faculty, Lima, Peru

C. B. Stewart, M.D., M.P.H., Dalhousie Public Health Clinic, Halifax, Nova Scotia, Canada, Professor of Epidemiology, Dalhousie Univ.

School Health Section

Sidney S. Chipman, M.D., 11 Morgan Ave., Norwalk, Conn., Graduate Student, Yale University

James W. Clarke, M.D., Admin. Bldg., Parkway at 21st St., Philadelphia 3, Pa., Asst. Director, Division of Medical Services, Public Schools

Wesley P. Cushman, D.Ed., Ohio State University, Men's Gymnasium, Columbus, Ohio, Assoc. Professor of Physical Education

Egner A. Eklund, D.D.S., R.D. 1, Garretsville, Ohio, Asst. Supervisor of Mouth Hygiene, Cleveland Board of Education

George J. Fortune, M.A., 11103 Lincoln Ave., Garfield Heights, Cleveland, Ohio, Exec. Director, Cleveland Hearing and Speech Center, Community Fund Agency

Aline L. Lavi, Rt. 3, Donegan Rd., Waukegan, Ill., School Nurse, Waukegan Public Schools

Dental Health Section

Demetrios M. Hadjimarkos, D.D.S., M.P.H., Oregon State College, School of Home Economics, Corvallis, Ore., Assoc. Professor

Anna Mintz, D.M.D., 416 Marlborough, Boston 15, Mass., Dentist

Oren A. Oliver, D.D.S., Medical Arts Bldg., Nashville 3, Tenn., Chairman of Public Health Council, Tennessee Dept. of Public Health

Virginia B. Winterhoff, D.D.S., 716 Hickory Lane, Benton Harbor, Mich., Public Health Dentist in Berrien County

Unaffiliated

Harry J. Becker, 4932 Cordell Ave., Bethesda, Washington 14, D. C., Director, Administrative Methods Unit, U. S. Children's Bureau

Ralph B. Berry, M.D., 41 Walden St., Newtonville, Mass., Student, Harvard School of Public Health

Robert H. Bishop Jr., M.D., 2065 Adelbert Rd., Cleveland, Ohio, Director, University Hospitals

George W. Brooks, 10 Cherry St., Derby, Conn., Student, Dept. of Public Health, Yale University School of Medicine

Laura B. Deane, D.M.D., 9 Central St., Lowell, Mass., Dentist

Simon D. Doff, M.D., 362 Yale Ave., New Haven, Conn., Asst. Epidemiologist, City Dept. of Health

K. Pierre Dozois, Ph.D., 1600 Arch, Philadelphia, Pa., Director, Sales Education, Wyeth, Inc.

Laurence J. East, M.S., 817 S. Park, Springfield, Ill., Administrative Assistant, State Dept. of Public Health

Stephen Fromer, M.D., M.P.H., 21 Hodges Place, Staten Island 1, N. Y., Health Officer in Training, New York City Dept. of Health

Eleanor P. Hunt, Ph.D., Children's Bureau, 14th & Constitution, N.W., Washington 25, D. C., Asst. Director, Division of Statistical Research

William C. Kenner, 4728 Schlaff Rd., Dearborn, Mich., Food and Sanitary Inspector, Dearborn Health Dept.

Elizabeth K. Lazo, M.A., 10 Audubon Place, Radburn, Fairlawn, N. J., Statistician, Merit System Unit, American Public Health Assn.

Garra L. Lester, M.D., 12 Vincent Ave., Chautauqua, N. Y., Local Health Officer

Albert M. Settles, 1357 W. 3rd Ave., Columbus, Ohio, Supervisor of Personnel, State Dept. of Health

Herman R. Shepherd, 165 Linden Ave., Bridgeport, Conn., Aerosol Research, Bridgeport Brass Co.

Frederick Swanson, M.D., 333 Sherman Ave., New Haven, Conn., Student, Yale University, Dept. of Public Health

Frank Winchell, 307 Hogan St., Jacksonville, Fla., Manager, Jacksonville Tourist & Convention Bureau

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A.P.H.A. MEMBERSHIP DIRECTORY

The 1946 Membership Directory of the Association is at last a reality and every member is entitled to receive it without charge. Members who desire to receive a copy should send a post card or a letter to this effect to the Association office at 1790 Broadway, New York 19, N. Y.

A.P.H.A. membership application blank on page XXVIII.

EMPLOYMENT SERVICE

The following pages present information for those seeking qualified public health personnel and for those seeking positions in public health.

This is a service of the Association conducted without expense to the employer or employee.

Address all correspondence to the Employment Service, A.P.H.A., 1790 Broadway, New York 19, N. Y., unless otherwise specified.

POSITIONS AVAILABLE

(Supplemental to list in December Journal)

Wanted: Supervisor for Visiting Nurses' Assn. in California, 20 minutes from San Francisco. Chest Agency in Medical Welfare & Retirement fund. Salary $3,000. Must have had adequate experience in field work, supervision and a degree in Public Health Nursing. Also, public health nurses for staff positions in generalized public health nursing program are wanted in Oakland, Calif. Salary $200–$215 per month. Must have California R.N. and theory in Public Health Nursing. Write Director, Oakland Visiting Nurse Association, 121 East 11th Street, Oakland 6, Calif.

Wanted: Well-qualified public health nurse with experience, in a joint three-county service in Oregon. Salary $240 per month. Liberal car allowance. Write Division of Public Health Nursing, Oregon State Board of Health, 1022 S.W. 11th Avenue, Portland 5, Ore.

Wanted: Tuberculosis Clinician. Duties include organizing and supervising tuberculosis diagnostic and pneumothorax clinics throughout the state, organizing community and industrial x-ray surveys, interpreting x-ray films, and assisting with other related tuberculosis control activities. Must be eligible for West Virginia license. Salary $420–$500 per month, plus travel. Write West Virginia State Dept. of Health, Charleston 5, W. Va.

Wanted: Sanitary Engineer or Sanitarian for newly established Health Department in resort area of Southeastern Michigan. Salary $3,300 plus mileage. Write H. C. Huntley, M.D., Director, Lenawee County Health Dept., Adrian, Mich.

Wanted: Two public health nurses in the Stanislaus County Health Dept., California. Salaries start at $220 per month; cars furnished. Write George F. O'Brien, M.D., M.S.P.H., Health Officer, 2410 H Street, P. O. Box 1412, Modesto, Calif.

Wanted: Dental Hygienists for Child Dental Health Program. Salary $2,168.28; Write U.S.P.H.S., Dental Section, Washington 11, D. C.

Wanted: City Health Officer in the State of North Carolina. Qualified candidates should contact **Box A-1,** Employment Service, A.P.H.A.

Wanted: Bacteriologist, New England public health laboratory. College degree plus 2 years' working experience (1 year in public health laboratory), or 2 years' college training plus 4 years' experience required. Starting salary $2,580, maximum $3,120. Write **Box B-1,** Employment Service, A.P.H.A.

Wanted: Epidemiologist who will also serve as Director of Division of Acute Communicable Disease Control of Department of Public Health, Seattle, Wash. Beginning salary $6,000 plus reimbursement for necessary travel. Write Emil E. Palmquist, M.D., Director of Public Health, 300 Public Safety Bldg., Seattle 4, Wash.

Wanted: Public health nurses for generalized nursing program. Salary range $210–$240 per month. Under civil service 40 hour week, vacation and sick leave privileges. Write Director of Public Health Nursing, City of Seattle, 504 County-City Bldg., Seattle 4, Wash

Wanted: Public Health Engineer to serve as Director of the Division of Sanitation of the Seattle Department of Public Health. This is a newly created position to unify the sanitation program under one person's leadership, and which in the past has been divided into four divisions, i.e., meat, milk, plumbing inspection, and general sanitation. Beginning salary $440 per month. Civil service position with vacation, sick leave and retirement privileges. An automobile for travel will be furnished. Write Emil E. Palmquist, M.D., Director of Public Health, 300 Public Safety Bldg., Seattle 4, Wash.

Wanted: Laboratory Technician in health department laboratory to make routine bacteriological water analyses and

bacteriological and chemical analyses of dairy products. College degree, with at least one year of bacteriology and a year of organic and inorganic chemistry required. No experience necessary. Age limit, 30 years. Women only. Salary $150 monthly or more, depending on qualifications. Opportunity for advancement. Write W. Howard Brown, Director, Food and Laboratory Division, Jacksonville Health Department, 940 Main St., Jacksonville 2, Fla.

Wanted: Junior Bacteriologist-Serologist. College degree with major in a science and some practical laboratory experience necessary. Starting salary $185 per month. Write E. V. Thiehoff, M.D., Peoria Dept. of Health, City Hall, Peoria, Ill.

Hawaii Board of Health Wants:

One **Psychiatrist** to direct the bureau of mental hygiene. (Salary: $645.00–$728.33, plus $45 monthly bonus.) Certification or eligible for certification by the American Board of Psychiatry and Neurology as a psychiatrist is required.

One **Child Psychiatrist** to assist in the direction of the bureau of mental hygiene and to head the child psychiatry program. (Salary: $645.00–$728.33, plus $45 monthly bonus.) Graduation from a medical school of recognized standing and supplemented by two years of specialized training in child psychiatry; four years' experience in psychiatry of which two years shall be in child psychiatry.

One **Public Health Veterinarian** to plan and supervise a program of food inspection and control in the division of pure food and drugs. (Salary: $362.08–$436.67, plus $45 monthly bonus.) Graduation from a recognized school of veterinary medicine with training in food inspection and control; two years' experience in veterinary medicine of which one year shall be in food inspection and control.

One **Public Health Statistician** to assist in the direction of the bureau of vital statistics and to head the section of public health statistics. (Salary: $295.42–$368.02, plus $45 monthly bonus.) Three years of responsible statistical experience, of which one year shall be in public health statistics, and graduation from a university of recognized standing with specialization in statistics, supplemented by graduate work in public health statistics. Write Civil Service Commission, Territory of Hawaii, 206 Hale Auhau, Honolulu 2, Hawaii. **(Use air mail, 5 cents.)**

Wanted: Health Officer for Saint Joseph, Mo. Graduation in medicine from a Grade A medical school and not less than two years of full-time experience in public health work, or, one year of such full-time experience and the completion of a course in public health of not less than one year in residence at a recognized institution of learning required. Write R. S. Minton, M.D., President of the Common Council, Saint Joseph, Mo.

Wanted: Two Public Health Nurses for county health department in rural California coastal county midway between San Francisco and Los Angeles. Population 45,000; largest urban population 10,000. Excellent generalized nursing service. Starting salary $215 monthly. Car furnished or 6¢ per mile. Write County Health Dept., San Luis Obispo, Calif.

Wanted: Several county health officers. Salary $6,000–$7,200. M.P.H. in addition to M.D. desirable to begin; under Merit System; permanent. Write Mr. A. T. Johnson, Personnel Officer, Oregon State Board of Health, 1022 S.W. 11th Avenue, Portland 5, Ore.

Wanted: Director of public health dentistry. Salary $4,750 beginning. Liberal travel and expense allowance. D.D.S. and M.P.H. necessary. Write Mr. A. T. Johnson, Personnel Officer, Oregon State Board of Health, 1022 S.W. 11th Avenue, Portland 5, Ore.

Wanted: Epidemiologist with responsibility for supervising Department of Vital Statistics. Salary $4,878. Write Cincinnati Health Department, City Hall, Cincinnati 2, Ohio.

Wanted: Young public health nurse recently out of school for generalized program in South Carolina city, population 17,500. Position recently established, promotional opportunities. Must own car. Beginning salary $2,000 plus travel. Write **Box N-388**, Employment Service, A.P.H.A.

Wanted: Qualified public health nurses for staff positions in generalized program in Greenwich, Conn. Salary $2,040–$2,520 dependent upon qualifications. Write Town Nursing Service, 116 East Putnam Ave., Greenwich, Conn.

Wanted: Competent, well trained, industrial hygienist-sanitary engineer for industrial company. When replying give education and experience. Write **Box I-2**, Employment Service, A.P.H.A.

Wanted: Director for newly organized two-county district, upper Michigan Peninsula. Summer and winter resort area on Lake Michigan. Budget $52,000,

population almost 50,000. Staff of 13 or more. Beginning salary $6,600 plus $750 travel allowance. For information, also on possible expansion with increase in responsibility and salary write Russell E. Pleune, M.D., Director, Northern Peninsula Office, Michigan Department of Health, Escanaba, Mich.

Wanted: Public health or sanitary engineer with engineering degree to direct environmental sanitation program in county health department in Southwestern Michigan. County is part of the field training area for the Michigan Department of Health. Beginning salary $3,000 plus travel allowance. Write **Box S-1**, Employment Service, A.P.H.A.

Wanted: Public health nurses for staff positions in generalized public health nursing program in well established county (part of the field training area for Michigan Department of Health). Beginning salary $2,000–$2,400 depending on training and experience plus travel. Write **Box N**, Employment Service, A.P.H.A.

Wanted: Associate bacteriologist in charge of clinical laboratory in eastern state health department. B.S. degree plus three years' experience, thorough foundation in chemistry and background in bacteriology are requisites. New position with teaching duties. At present beginning salary $3,000, annual increments, increase considered. Write **Box L-3**, Employment Service, A.P.H.A.

Wanted: Health Officers with experience or training in public health for County Health Units as follows: Duval County-Jacksonville; Gadsden County-Quincy; Putnam and Flagler Counties-Palatka. Also Medical Directors for Bureau of Maternal and Child Health and for Division of Industrial Hygiene, with headquarters in Jacksonville. Salaries determined by experience and training. Write State Health Officer, P. O. Box 210, Jacksonville, Fla.

Wanted: Health Educators to conduct general community health education programs at local level in Mississippi. Beginning net income $2,400 per year with periodic increases, plus travel expenses. M.P.H. with major in health education from a recognized school required. Contact Dr. N. C. Knight, Director, Division of Health Education, State Board of Health, Jackson 113, Miss.

Wanted: State Vital Statistics Registrar, Male; $300 to begin; Permanent. Minimum: 3 years' experience in birth and death registrations; college graduate, preferably supplemented by one year graduate work in public health with major in vital statistics. Write or wire A. T. Johnson, Personnel Director, Oregon State Board of Health, 1022 S.W. 11th Avenue, Portland 5, Ore.

Wanted: Venereal disease control physician, St. Louis City Health Division. Special training and experience in venereal diseases; clinical, laboratory, and public health aspects required. Full-time. Civil Service. State qualifications and acceptable salary. Write Department of Personnel, City of St. Louis, Mo., 14th and Market Streets.

Wanted: Public health nursing supervisor. Should have B.S. degree, major in Public Health Nursing Supervision and minimum one year supervisory experience in generalized program. Salary $3,000. Write Director, City-County Health Unit, 28 East Boulder, Colorado Springs, Colo.

Wanted: Medical-social worker for challenging position. Combination case work and community organization in Voluntary Health Agency, Denver, Colo. No travel. Write **Box M**, Employment Service, A.P.H.A.

Wanted: Qualified public health nurse with tuberculosis experience for progressive voluntary agency with active community program. West. Write **Box N-2**, Employment Service, A.P.H.A.

Wanted: Laboratory technician or medical secretary technician for clinical laboratory in Massachusetts. Five-and-a-half-day week, no night work. Write **Box J**, Employment Service, A.P.H.A.

Wanted: Medical Director for rural county, population 28,000, Midwest. Budget supplied entirely by county funds. Salary $5,000 plus travel. One month annual vacation, pension system. Write **Box Q**, Employment Service, A.P.H.A.

Wanted: Staff nurse for generalized service including bedside and school nursing. Salary $200 to $240. City-County Health Department. Population 85,000. Seventeen staff nurses, 1 field supervisor, 1 clinic supervisor, 1 nursing director, 6 sanitarians, 1 medical director. Write **Box U**, Employment Service, A.P.H.A.

Wanted: Director of Nurses to supervise nurses and to direct a school for practical nurses in a new hospital. Opportunity to participate in the organization of a new hospital for the care of long-term illnesses, located at Cascade, Wash-

ington County, Maryland. Maintenance, health and retirement benefits. Proposed salary subject to approval $3,000–$3,750. *Requirements:* B.S. in nursing; one year's study in teaching and supervision of nursing or in hospital administration. One year in teaching and supervision of nursing in school of nursing or hospital plus one year as Director of School of Nursing; or five years as a Nursing Supervisor. Write Dr. J. A. McCallum, Cascade, Washington County, Maryland.

Wanted: Communicable Disease Control Physician with major part of work in V.D. Aptitude and interest in clinic services, and program direction preferable to experience which is desirable. Some public health training experience preferred. Fifty-bed contagious disease hospital. Beginning salary $5,000 per year plus travel. Civil service standards. Give full qualifications first letter. Write Director, City Health Department, Lansing 7, Michigan.

POSITIONS WANTED

Parasitologist, M.S., Ph.D. Experience: College teaching 8 years; U. S. Army parasitologist and tropical malaria control 4 years, laboratory director 1 year. Write Box **M-470,** Employment Service, A.P.H.A.

Nutritionist, M.S. (nutrition). Experience: State Health Dept. 1½ years, federal agency 1½ years, hospital dietitian 5 years. Write Box **N-400,** Employment Service, A.P.H.A.

Public Health Editor and information specialist, woman, considerable experience in preparation of health articles, pamphlets, radio, and newspaper work, public relations, desires position East or Midwest. Write Box **M-478,** Employment Service, A.P.H.A.

Biologist, three (3) years' experience as insect and rodent control officer at large permanent Army post; six (6) years' teaching experience, B.S. and M.S. degrees in biology and zoölogy; recent Capt., Sanitary Corps A.U.S.; present salary $4,100 per year; seeks position as pest control engineer or biology instructor. Write **Box E-500,** Employment Service, A.P.H.A.

Bacteriologist - Immunologist, Ph.D. Major interest sanitary, including air, and food bacteriology. Experience as head health department division and university research program. Numerous publications. Age 38. Write **Box L-502,** Employment Service, A.P.H.A.

Health Educator, female, age 37, Negro, with three years' experience in Health Education, twelve years' experience in social work and community organization; capable of working with entire community; considerable experience working with racial and religious minorities. Write **Box H-522,** Employment Service, A.P.H.A.

Writer, experienced, college graduate, woman, general medical background, several scientific translations from German. Four years' research for official agency on history of state hospitals. Also experienced in organizing social service for physically handicapped. Desires position in editorial work, library research, translation, and administrative personnel work. Write **Box H-526,** Employment Service, A.P.H.A.

Public Health Editor, experienced in preparing health pamphlets, movie and slide films, articles and speeches. Seven years' experience in curriculum building and teacher training in adult education and 10 years' experience in teaching English. Write **Box H-524,** Employment Service, A.P.H.A.

Fellowships in Medical Research

Dr. Thomas Parran, Surgeon General of the U. S. Public Health Service, announces approximately 120 one year fellowships in medical research open to men and women who are graduate science students.

The National Cancer Institute, a division of the National Institute of Health, has funds to train approximately 30 physicians in the diagnosis and treatment of cancer. Doctors wishing to specialize in this field may be appointed as trainees and be assigned to authorized institutions.

The National Institute of Health offers research fellowships to graduates of accredited colleges who have majored in biology, chemistry, dentistry, entomology, medicine, physics, and other scientific fields. Senior research fellowships are awarded at a yearly stipend of $3,000 to those who hold a Ph.D. degree in one of the specified scientific subjects. Junior

fellows receive $2,400 annually and must hold an M.S. degree or have completed the equivalent of such a degree in post-graduate study. Fellowships may be renewed for a second year. Applications for fellowships and traineeships should be sent to the Director, National Institute of Health, Bethesda, Md.

The U. S. Public Health Service also administers fellowships for health personnel from other American republics and the Philippine Islands. Applications for these fellowships should be sent to The Surgeon General, U. S. Public Health Service, Washington 25, D. C.

Fellowships for the Training of Health Educators

The U. S. Public Health Service announces that fellowships leading to a Master's degree in Public Health in the field of health education are again being offered. Candidates must be U. S. citizens between 22 and 40 years of age, must hold a bachelor's degree from a recognized college or university, and must be able to meet the entrance requirements of the accredited school of public health of their choice.

In addition to the degree, courses in the biological sciences, sociology and education may be required. Training in public speaking, journalism, psychology, and work in public health or a related field are considered desirable qualifications.

Tuition, travel expenses for field training and a monthly stipend of $100 will be provided out of funds furnished by the National Foundation for Infantile Paralysis. The year's training which begins with the 1947 fall term, consists of 8 or 9 months of academic work and 3 months of supervised field experience.

Veterans are encouraged to apply and will be paid the difference between the allowance under the G.I. Bill of Rights and the monthly stipend of $100. Employees of local and state health departments are not eligible since Federal grants-in-aid are already available for such training purposes.

Application blanks may be obtained by writing the Surgeon General, United States Public Health Service, Washington 25, D. C., and must be filed prior to March 15, 1947.

Exchange of Public Health Personnel between Hawaii and the Mainland

An opportunity for public health nurses, sanitary and medical officers to work in the Hawaii Health Department is now offered under the new exchange personnel program inaugurated by the Board of Health in the Territory.

As passed by the Hawaii legislature, the enabling act calls for an exchange of personnel for a period not to exceed a year.

Provisions in the act state that each person exchanged by the health department of any state must possess qualifications equal to the qualifications of the person exchanged for him from Hawaii and must hold in the state health department a position which is equivalent to the position held by the person exchanged for him in Hawaii.

Salaries for both exchanging parties will be paid by the home employer. Travel, board, lodging or other such expenses will not be paid by the Territorial Health Department.

Eligible persons employed on the mainland who desire to take advantage of this exchange program are requested to write Dr. Richard K. C. Lee, Assistant Health Executive of the Board of Health, Territory of Hawaii.

Openings for District Health Officers in New York City

The City of New York plans to open applications for the position of District Health Officer in January. The requirements are an M.D. degree, one year internship or residency in a general hospital approved by the American Medical Association, a Master's degree in Public Health from an institution which has such a degree registered by the State of New York, three years' satisfactory full-time experience as health officer or assistant health officer or in another administrative position in public health. The minimum salary is $3,000, and at present four vacancies exist at $5,750 per annum. In addition, an annual bonus of $350 is given. Inquiries should be directed promptly to the Commissioner, Municipal Civil Service Commission, 299 Broadway, New York 7, N. Y.

Advertisement

Opportunities Available

WANTED—(a) Director of division of venereal disease; must be qualified not only in diagnosis and treatment of venereal disease but familiar with direction of general control program; population of county two million; Middle West; $7,000 plus traveling expenses. (b) Medical consultant; field appointment; new organization having state-wide program; headquarters in winter resort city, South. (c) Large city in Pacific Northwest requires school physician, preferably with public health training; 20,000 students; excellent opportunity for one interested in reorganization of school health program; corps of six nurses, supervisor of nurses, and dental hygienist; advantageous if physician has background in physical education. (d) Physicians who have specialized in pediatrics, tuberculosis, venereal disease, and industrial hygiene for administrative appointments with municipal department of health; public health training or experience required; salaries dependent upon qualifications but not less than $6,000; Pacific Coast. (e) Public health physicians for assignment in Bolivia and, also, two public health men for posts in the Amazon area of Brazil. (f) Young woman physician for student health appointment, university expecting enrollment of 18,000 (13,000 men); new student health building; professional staff comprised of seven internists, three psychiatrists, allergist with other specialties represented on part-time basis; well equipped infirmary of 60 beds; complete x-ray and laboratory facilities; possibility of teaching appointment if physician wishes it; salary range $4,500 to $5,250 with possibility of early increase. **PH12-1** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

WANTED—(a) Health educator to take charge of state-wide program, division of one of the national organizations; South; $4,000 including travel expenses; man preferred. (b) Health educator to become associated with Chicago agency; master's degree in public health education desirable; man or woman; $3,500. (c) Health educator; general community health program; salary dependent upon qualifications; South. (d) Health educator qualified to serve as consultant to health educators on staff of state department of health; Ph.D. whose training has included year of graduate training in field of public health with major emphasis on education required; $3,600–$4,800. **PH12-2** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

WANTED—(a) Nutritionist; to direct district staff of nutritionists, municipal department of health, $345; West. (b) Nutritionist with minimum two years' experience to become associated with maternal and child health program of state department of health; would also be associated with university medical school; Middle West. (c) Nutritionist to join staff of visiting nurses' association; duties include some teaching; East. **PH12-3** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

WANTED—(a) Public health nursing supervisor; university medical center of the East; $2,660–$3,660. (b) Executive secretary and educational consultant; both positions require women with Bachelor's degrees; $250 with periodical increases; Pacific Coast. (c) Student health nurse to take charge of revamped health program; coeducational college; Southwest. (d) Field nursing consultants in tuberculosis, school of nursing, pediatrics and general nursing; headquarters in university town of Middle West; $2,900–$3,300. (e) Public health nurse to supervise newly constructed outpatient department, fairly large hospital, Hawaii; transportation paid. **PH12-4** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

WANTED—(a) Sanitary engineer; state department of health which is being reorganized; salary for recent graduate, $250, salary for experienced candidate, $350. (b) Industrial hygiene engineer; municipal health department; Pacific Northwest; $350–$400. (c) Statistician; division of cancer control, state department of health; should be able to develop broad statistical department covering several public health activities as well as the cancer field; research-minded person required; although man preferred, woman eligible; $4,500. (d) Executive secretary for health and hospital council agencies; post created for community coördination; man preferred, woman eligible; university medical center; East. (e) Sanitarian; large industrial company; Chicago. **PH12-5** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

Advertisement

Opportunities Wanted

Sanitarian; B.S. degree in civil engineering; six years, maintenance engineer with large institution; seven years, sanitary engineer where his assignments have been varied, including insect control, water supply, sewage disposal and general environmental sanitation; in early thirties; for further information, please write Burneice Larson, Director, Medical Bueau, Palmolive Building, Chicago 11.

Young physician experienced in the field of industrial hygiene and preventive medicine; M.D. Middle Western school; M.S. degree in public health medicine; graduate training also in industrial medicine; before entering military service, held administrative position in industrial medicine; expects early discharge; for further information, please write Burneice Larson, Director, The Medical Bureau, Palmolive Building, Chicago 11.

Health educator; M.S. degree in health education; doctor of education degree (major in school health education); eight years on staff of state university in department of health education; for further information, please write Burneice Larson, Director Medical Bureau, Palmolive Building, Chicago 11.

Public health nurse is available for administrative appointment; Bachelor of Science degree in Public Health and Hospital Administration; Master's degree in Guidance and Personnel; three years' teaching experience; six years, director of outpatient department, large teaching hospital; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Health educator; B.A. in education with teacher's certificate from Middle Western university; considerable work toward Master's degree in public health; several years, dental hygienist in public schools of large city; five years, dental health educator, state department of health; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

U. S. Public Health Service Announces Examinations for Nurses. Examinations for the appointment of registered nurses to the U. S. Public Health Service will be given during March and April, 1947, in cities throughout the nation, according to an announcement made by Miss Lucile Petry, Chief of the Division of Nursing.

"The Public Health Service offers opportunities for recent graduates as well as experienced nurses," Miss Petry said.

"For the new registered nurse who can qualify here is an opportunity to acquire good initial experience. The Public Health Service offers the experienced nurse a permanent career with the advantages of professionally stimulating work, job security, regular salary increases, and opportunities for advanced study and promotion on the basis of training and ability."

Nurses interested in obtaining further details concerning appointment to the U. S. Public Health Service should write to Miss Lucile Petry, Chief, Division of Nursing, U. S. Public Health Service, Washington 25, D. C. Specific dates for examinations will be announced shortly.

NEWS FROM THE FIELD

RAGWEED CONTROL

According to a recent release of the New York City Health Department, pollen counts made by the National Pollen Survey Committee in New York City during the summer of 1946 were the lowest ragweed counts since 1937. This favorable condition is attributed in part to the 6 week ragweed control program instituted through the summer of 1946. At least 3,000 acres of ragweed were treated during the campaign which utilized the facilities of many of the city's departments plus the services of Boy Scouts and other volunteer groups.

The public interest in ragweed control programs utilizing the herbicide 2,4–D, has been great, not only in New York City but also in Jersey City, N. J., and Washington, D. C., where programs were also carried on last summer. More than 100 visitors registered at the exhibit on ragweed control presented by the New York City Health Department in the scientific exhibits at the Annual Meeting of the Association in Cleveland. The paper describing similar methods for the control of poison oak and poison ivy presented by Dr. Clair E. Turner* at the Annual Meeting also evoked general interest.

To help meet the anticipated demand for information and the need for trained workers in other communities, New York University announces a special series of lectures under the title of "Control of Plants Detrimental to Health," to be sponsored jointly by the university and several of the health departments in the New York metropolitan area. The course is scheduled to start on Friday evening, March 7, 1947, at 7:30, and will continue for at least 5 subsequent Friday evenings. An advisory group consisting of public health workers, horticulturists and representatives from New York University are preparing the curriculum and a syllabus and planning for the course in general. The faculty for the lectures will be composed of individuals who have worked in ragweed control programs.

Registration will be $5 and will be open to employees of health departments, park commissions, mosquito control commissions, departments of public works and any other official bodies interested, as well as representatives of volunteer groups working toward the control of ragweed. Additional information can be obtained from Professor Warren Bower, Assistant to the Dean, Division of General Education, New York University, New York 3, N. Y.

WESTERN RESERVE INSTITUTE ON MEDICAL CARE AND HUMAN VALUES

Western Reserve University, Cleveland, Ohio, has announced an Institute January 16, 17, and 18 on the subject "Better Medical Care and Human Values—A Challenge to Social Workers." Faculty chairman is Professor Agnes H. Schroeder of the Medical Social Work Department, School of Applied Social Sciences. Persons admitted are required to be graduates of a school of social work or college graduates with a minimum of three years' employment in a social or health agency. Attendance is limited to 50 persons. Tuition is $12.50. The leader of the Institute will be John Peters, M.D., Professor of Medicine, Yale University School of Medicine, New Haven, Conn., and secretary of the Committee of Physicians for the Improvement of Medical Care, Inc.

* See page 7, this issue.

RESTAURANT SANITATION ORDINANCE

The progress of the adoption of the Standard Restaurant Ordinance (or one based on it) as prepared by the U. S. Public Health Service, is described in the *News Release* dated November, 1946, of the Milk and Food Section, Sanitary Engineering Division of the U. S. Public Health Service. According to this release these ordinances are in effect in communities embracing a population of over 40,000,000. Fifteen states and the District of Columbia, plus 176 counties and 373 municipalities, have adopted such ordinances.

Copies of the suggested ordinance, *Ordinance and Code Regulating Eating and Drinking Establishments,* can be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 20 cents each.

RED CROSS SERVICES TO VETERANS

The Motion Picture Distributing Office of the American Red Cross announces "Facing Tomorrow," a "short" motion picture designed to make known to a wide number of ex-servicemen and their families the free services available to them from their Red Cross in dealing with vital post-war problems of insurance, benefits, allotment checks, and many others. The film is available without charge, except for shipping costs. The 16 mm sound film is in two reels, running 14 minutes. Order from Motion Picture Distributing Office, American Red Cross, 40 East 49, New York 17, N. Y.

RICHARD PEARSON STRONG AWARD TO LONDON'S DR. FAIRLEY

The fourth annual award (1947) of the Richard Pearson Strong Medal was recently made to Neil Hamilton Fairley, M.D., of the London School of Hygiene and Tropical Medicine at a special dinner of the American Foundation for Tropical Medicine. Dr. Fairley was cited as "a soldier who has conquered disease, relieved the suffering and saved the lives of innumerable persons in many lands." During the war he was chairman of the combined Advisory Committee on Tropical Medicine to General MacArthur. As Brigadier of the Australian Army Medical Corps he directed the Medical Research Unit of the Australian Army at Cairns, Australia. This unit demonstrated the successful chemotherapeutic control of malaria in troops in the South West Pacific. Information secured on malaria and other tropical diseases, such as scrub typhus and dengue fever, "made possible an earlier termination of the war against the Japanese Empire."

The award, together with a $500 cash honorarium, was established through a gift of the Winthrop Chemical Co. The medal is struck in white metal palladium. The presentation to Dr. Fairley was made by Colonel Strong in whose honor the award was named and who was its first winner in 1944.

AMERICAN PHARMACEUTICAL MANUFACTURERS' ASSOCIATION AWARD TO MAYO FOUNDATION

On December 9, in New York City, the eighth annual award of distinction of the American Pharmaceutical Manufacturers' Association was made to The Mayo Foundation for Medical Education and Research "in recognition of its great contributions to public health, by fundamental research in the field of the medical sciences, for the profound and lasting benefit of mankind." This is the third consecutive year in which this award has been made to a group rather than to individual research workers.

FOUR NEW STATE DISTRICT HEALTH OFFICERS IN MAINE

The Bureau of Health of the Maine Department of Health and Welfare announces four new district health officers secured in five months:

They are Maurice A. Priest, M.D., with headquarters in Augusta; John Kazutow, M.D., Machias; Dean Fisher, M.D., Portland; and William J. Young, M.D., Auburn.

FLORIDA PUBLIC HEALTH ASSOCIATION, INC.

New Officers Elected:

President — Frank V. Chappell, M.D., Tampa
1st Vice President—Ruth E. Mettinger, R.N., Jacksonville
2nd Vice President—Angus Laird, Tallahassee
Secretary-Treasurer—Elsie Hyatt, Jacksonville

Board of Directors, in addition to above:

Wilson T. Sowder, M.D., Jacksonville
George A. Dame, M.D., Jacksonville
W. H. Miller, Miami
Robina Tillinghast, St. Petersburg
Lorenzo L. Parks, M.D., Jacksonville
Elizabeth Reed, Jacksonville
B. G. Barfield, Gainesville
Representative on A.P.H.A. Governing Council—Wilson T. Sowder, M.D.

NATIONAL MALARIA SOCIETY

The National Malaria Society held its 29th annual session conjointly with the Southern Medical Association in Miami, Fla., November 4–7. During a three day session, papers setting forth the advances in the various fields of malaria were presented.

The officers for 1947 are:

President—Colonel Mark D. Hollis
President-Elect—Dr. E. Harold Hinman
Vice-President—Dr. Wendell Gingrich
Secretary-Treasurer—Dr. Martin D. Young
Directors—Dr. Justin M. Andrews, L. M. Clarkson, W. H. W. Komp

INTERNATIONAL ASSOCIATION OF MILK SANITARIANS

The International Association of Milk Sanitarians, Inc., at its Annual Meeting, October 24–27, took its first constitutional step in changing the name to International Association of Milk and Food Sanitarians, Inc. Final action will be determined by a mail vote within the next several months.

Newly elected officers are:

President—R. G. Ross, D.V.M., Tulsa, Okla.
First Vice-President—W. D. Tiedeman, Albany, N. Y.
Second Vice-President—A. W. Fuchs, Washington, D. C.
Third Vice-President—M. R. Fisher, D.V.M., St. Louis, Mo.
Secretary-Treasurer—J. H. Shrader, Ph.D., Wollaston, Mass.

The Executive Board authorized the name of the *Journal of Milk Technology*, the official organ of the Association, to be changed to the *Journal of Milk and Food Technology*, effective with the beginning of the next volume.

CONNECTICUT LOCAL HEALTH OFFICERS BACK HEALTH DISTRICT PLAN

Connecticut health officers at their spring meeting on May 29, 1946, in Hartford voted the appointment of a committee to draft a resolution on the need of full-time departments of health for cities and towns in Connecticut, and the consideration of financial aid by the state to proposed district departments of health. At the recent official meeting of the health officers of Connecticut, held on November 20, 1946, in Bridgeport, this committee presented the following resolution which was adopted unanimously by all health officers, who filled the meeting room:

WHEREAS, The health officers of the State of Connecticut are cognizant of the limitations of a local department of health under part-time health officers such as now exist in most of the towns, boroughs and small cities and

WHEREAS, The House of Delegates of the American Medical Association, on June 10, 1942, passed a resolution urging the establishment of full-time modern health services to provide complete coverage of the nation's area and population, and

WHEREAS, The American Public Health Association at its Seventy-first Annual Meeting on October 29, 1942, resolved that all practical measures be taken by the officers and the Executive Board of the American Public

Health Association to promote the creation and adequate support of health services by local government throughout the United States to the end that no community of our people shall be left without the public care which can be best supplied only through full-time trained medical officers of health with sufficient numbers of qualified assistant personnel, be it

RESOLVED, That the health officers of the State of Connecticut urge the State legislature to take formal action on the Health District Bill which would provide financial assistance to local communities to establish full-time districts of health, and be it further

RESOLVED, That copies of this resolution be sent to the Governor and the Legislative Council of the State of Connecticut.

COLUMBIANA COUNTY, OHIO, IMPLEMENTS PUBLIC HEALTH SURVEY

A survey of public health facilities in Columbiana County, Ohio, was recently conducted by the staff of the Committee on Administrative Practice of the American Public Health Association under the direction of Roscoe P. Kandle, M.D., M.P.H., at that time Associate Field Director for the Committee.

The Columbiana County Public Health League has announced that a number of the major recommendations of the survey are now in process of attainment. The November election supported the proposal for a special levy of 8/10 mill for tuberculosis with a 78 per cent majority. In the opinion of the League, the health survey materially assisted in this attainment.

Archie W. Dalton, the Executive Secretary of the League, has announced that the general health district board is now receiving applications for a qualified health commissioner and that it is hoped shortly to announce the name of the appointee.

SEVENTEEN ILLINOIS COUNTIES VOTE COUNTY HEALTH DEPARTMENTS

Under the referendum provisions of Illinois' Searcy-Clabaugh Law, 17 counties of the state voted, at the recent election, to establish locally financed and administered county health departments.

The favorable vote will provide these counties with fu'l-time professional public health service as soon as the administrative units can be organized and personnel secured. This announcement was made by Dr. Roland R. Cross, Illinois State Health Officer, on November 8. Of the 17, 7 will be single county units, the remaining 10 counties will be set up in three bi-county and one four-county units. When these new counties are in operation a total of 22 counties will have full-time local health protective service covering about 1,200,000 persons.

PRENTISS AWARD TO MARY CONNOLLY

Mary Connolly, Director of Health Education, School of Public Health, University of Michigan, was presented the third annual Elizabeth S. Prentiss National Award in Health Education in Cleveland on November 12, 1946, by Dr. W. W. Peter, Chairman of the Cleveland Health Museum's National Advisory Council. The award was established in 1943 by the Museum for an individual or persons working in coöperation who have made outstanding contributions to public health education.

Miss Connolly was Director of Health Education in the Detroit Health Department for 25 years before 1943 when she joined the university staff, where, in the words of the citation, she was a "Down-to-earth" health educator, doing much by way of writing and community organization to instill an expanding knowledge of personal and community health into the minds of Detroiters.

Earlier winners of the award were Mary and Evart G. Routzahn in 1944, and Prof. C.-E. A. Winslow in 1945.

ADDITIONS TO HOSPITAL FACILITIES IN NEW YORK CITY

Plans for the expansion of two of New York City's Medical Centers were

recently announced. Both represent coöperation between municipal and voluntary agencies. The first is for the James Ewing Hospital for cancer, a city hospital for the free treatment of cancer patients. It will be a 12 story building located on grounds adjacent to both the Memorial Hospital for Cancer and Allied Diseases, a voluntary hospital, and to the Sloan-Kettering Institute for Cancer Research now under construction. Each of the three will be a unit of a projected Memorial Cancer Center. Adjacent also are the Cornell Medical College, New York Hospital Medical Center, and the Rockefeller Institute for Medical Research.

The New York University-Bellevue Medical Center plans call for a $50,000,000 improvement program by the New York University Medical School. The buildings will include the 20 story College of Medicine and hospital, the latter designed primarily to serve patients in the modest or middle income class; a 10 story dormitory for medical students; a new university clinic; and the Institute of Forensic Medicine. Similarly, the City has announced plans to rebuild all but the newest buildings of Bellevue Hospital which now cover blocks from 26th to 30th Streets on First Avenue. The University units of the Medical Center will cover four additional blocks from 30th to 34th Street.

MEAD JOHNSON VITAMIN A FUND

The American Pediatric Society has received $15,000 from Mead Johnson and Company, Evansville, Ind., to be known as the "Mead Johnson Vitamin A Fund." Grants-in-aid from this fund will be used for research and studies in the field of fat soluble vitamins. A committee consisting of Drs. Edward A. Park, Baltimore; Allan M. Butler, Boston, and Daniel C. Darrow, New Haven, Conn., was appointed to administer all grants-in-aid in connection with the use of funds. All applications for grants and correspondence should be addressed to Dr. Park, 601 North Broadway, Baltimore 5.

WORK OF COMMISSION ON HOSPITAL CARE MADE A PERMANENT DEPARTMENT OF AMERICAN HOSPITAL ASSOCIATION

The American Hospital Association has announced the establishment of a department within the Association to continue certain functions previously carried on by the Commission on Hospital Care which disbanded on October 1, 1946. The Association will continue to code and tabulate hospital schedules for state survey commissions and will assist states with advice and exchange of information on developing satisfactory study methods. Maurice J. Norby, Director of Research of the Commission on Hospital Care, has been appointed Assistant Director of the Association in charge of this new activity. He will be assisted by Ronald B. Almack as research analyst and by U. S. Public Health Service personnel. Dr. David B. Wilson of the Service will act as liaison officer between the Association and the Service.

This new department is made possible by grants of $10,000 a year for two years each by the W. K. Kellogg Foundation and the National Foundation for Infantile Paralysis. The Commonwealth Fund will publish the report of the Commission on Hospital Care. It is scheduled for 1947.

YUGOSLAV VISITORS IN UNITED STATES

Among visitors from abroad who attended the Annual meeting of the American Public Health Association at Cleveland were four men from Yugoslavia, three physicians and a sanitary engineer, who are now in the United States travelling and studying under the sponsorship of the United Yugoslav Relief Fund of America. They will be

in this country for a period of four months, observing American public health methods and administrative programs, and studying nursing and medical education and research.

To date they have visited medical and nursing schools in eastern universities, research institutions and hospitals, and are now at the University of Michigan, living at the English Language Institute, while working at the School of Public Health and having conferences in the medical and nursing schools.

The positions that these men held abroad are of interest: Dr. Radivoje Berovic is chairman of the Department of International Medicine at the University of Belgrade Medical Faculty. He is also chairman of the Committee on Medical Education for all of Yugoslavia. (This committee is a subcommittee of the Central Commission for Public Health in Yugoslavia, which corresponds to the USPHS.)

Dr. Alexander Rotovic is assistant professor in the Institute of Physiology and Physical Therapy Clinic at the University of Belgrade. Dr. Rotovic has had wide experience in research work in Czechoslovakia, Hungary, and in his own country.

Dr. Ksenofon Sahovic is head professor of the Medical Faculty of the University of Belgrade, Director of the university's Pathological Institute, and Chairman of the Clinic for Cancer and Degenerative Diseases at the university. He is a member of many learned societies in Europe.

Mr. Bogdan Teodorovic is a graduate of the School of Engineering of the University of Zagreb, and received the degree of Engineer of Architecture in 1926. In 1927 he was appointed to the Hygiene Institute of Zagreb in the Department of Sanitary Engineering. In 1929 and 1930 he was in the United States on a fellowship grant from the Rockefeller Foundation, studying with Professors Drinker and Fair at Harvard University. At present Mr. Teodorovic is one of the outstanding sanitary engineers of Yugoslavia, and is serving in the Ministry of Health for the State of Croatia, with offices in Zagreb.

SOUTHERN BRANCH, A.P.H.A., ANNOUNCES NEW MEETING PLANS

The Southern Branch of the American Public Health Association, organized in 1932, held a meeting in Miami early in November in connection with the Annual Meeting of the Southern Medical Association. The new officers include:

President—John W. Williams, M.D., Jefferson City, Mo.

Secretary-Treasurer—John M. Whitney, M.D., New Orleans, La.

Representative to the Governing Council A.P.H.A.—Felix J. Underwood, M.D., Jackson, Miss.

At this meeting, the Southern Branch of the A.P.H.A. voted to adopt a plan to hold meetings hereafter separate from the meetings of the Southern Medical Association and at a time which will not conflict with other meetings of similar interest. Dr. Whitney has announced that definte plans are being formulated for a spring meeting of the Branch at a time and place shortly to be announced.

UNITED STATES ARMY OPENS REHABILITATION CENTER FOR HARD OF HEARING

"News Notes" for October 15, 1946, Office of the Surgeon General, U. S. Army, reports the opening of a new service at Walter Reed General Hospital. This service consists of a new center for the rehabilitation of the deafened and hard of hearing. The Aural Rehabilitation Center, as it is called, is designed to receive military personnel, as "students," those who have finished with normal treatment and surgery but who require rehabilitative attention. Major Henry C. Barnaby

will be the director. When filled to capacity there will be 250 under treatment.

PERSONALS

Central States

GLENN H. BAIRD, M.D.,† formerly of U. S. Public Health Service, has been appointed Director of Venereal Disease Control for the Kansas State Board of Health. He succeeds REGNAR M. SORENSON, M.D.,* who was lent to Kansas during the war by the Public Health Service.

CAPTAIN ERNEST W. BROWN (MC), U.S.N. retired, has accepted an appointment with the Headquarters staff of the Council on Industrial Health of the American Medical Association, effective December 1, 1946. During the recent war he was attached to the Office of the Surgeon General of the Navy in charge of industrial hygiene research, submarine medicine, and chemical warfare medicine.

CHESTER M. BUNDY, M.D., has been appointed Director of the Division of Tuberculosis Control, Indiana State Board of Health, Ind. He succeeds CARL C. KUEHN, M.D., who has been granted a leave to study public health at the University of Michigan.

LEROY L. FATHERREE, M.D.,* has been appointed new full-time Health Director of the reorganized Omaha, Neb., Department of Health. Other new appointments for this department include: B. A. BAKER, Sanitary Engineer, and LEETA A. HOLDREGE,† Director of Nurses.

J. BRENNAN GISCLARD† has resigned from the position of the Bureau of Industrial Health, Michigan Department of Health, to accept a similar position with the Detroit Department of Health.

HAROLD C. HAYNIE, M.D., recently released from military service, has been appointed Assistant Medical Director of the Ohio State University Hospital and its out-patient department, and as Assistant Professor of Medicine and Hospital Administration in the Medical School.

WILLIAM C. KEETTEL, JR., has been appointed Assistant Professor of Obstetrics and Gynecology at the State University of Iowa College of Medicine, Iowa City. JOHN W. DULIN, M.D., who resigned as Professor of General Surgery at the State University of Iowa College of Medicine, July 1, will rejoin the college of medicine faculty as Clinical Professor of Surgery at the University Hospital.

LAURENCE T. ROGERS, PH.D.,† formerly Assistant Secretary, Health Division of the Council of Social Agencies, Chicago, Ill., has joined the University of Oklahoma faculty at Norman as Professor of Health Education.

SIGSBEE R. SELJESKOG, M.D., has been appointed Superintendent of the Elizabeth Kenny Institute, Minneapolis, Minn., succeeding FRANCIS E. HARRINGTON, M.D.†

MILTON L. SHURR has been named Director of Public Health Education and Coördination for Tulsa County, Oklahoma, a newly created position with the Tulsa City Health Department. Mr. Shurr has recently been Health Consultant in Omaha, Neb.

RICHARD H. YOUNG, M.D., formerly Associate Professor of Medicine and recently Director of the Student Health Service of Northwestern University Medical School, Chicago, Ill., has been appointed Dean of the University of Utah School of Medicine, Salt Lake City. HYRUM L. MARSHAL, M.D.,† who has been Acting Dean, will now be enabled to devote full time to his position as Professor of Public Health and Preventive Medicine and Director of the Student Health Service.

* Fellow, A.P.H.A.
† Member, A.P.H.A.

Eastern States

MERL G. COLVIN, M.D.,† Medical Director of Lycoming County, Pennsylvania, for the past 7 years, has been appointed a member of the State Advisory Health Board.

WILLIAM L. COOK, JR., M.D., has been appointed Assistant Director of the Department of Industrial Hygiene, University of Pittsburgh, Pittsburgh, Pa. Dr. Cook was Assistant Director and later Director of the Occupational Health Division, Office of the Surgeon General, U. S. Army, during World War II.

JOHN FERRELL, M.D.,* recently Associated with the John and Mary Markle Foundation, New York, has been appointed Adviser and Consultant Executive Secretary of the North Carolina Medical Care Commission. CLEMENT C. CLAY, M.D., resigned as Executive Secretary, several months ago.

FRANKLIN M. FOOTE, M.D.,* has been appointed Medical Director of the National Society for the Prevention of Blindness, Inc., New York, N. Y. Recently discharged from the Medical Corps of the U. S. Army, with the rank of Major, Dr. Foote retains his post as Assistant Professor of Public Health and Preventive Medicine at Cornell University Medical College. He was formerly associated with the New York City Health Department and the Connecticut State Department of Health. He is the present Chairman of the Committee on Scientific Exhibits for the American Public Health Association.

JOSEPH G. HOFFMAN, PH.D., physicist, has been named Director of Cancer Research at the Rockwell Park Memorial Institute, Buffalo, N. Y.

RALPH HORTON, M.D.,† has been appointed General Director of the Tuberculosis Hospitals in the New York State Department of Health. Dr. Horton, who is now Director of the Homer Folks State Tuberculosis Hospital at Oneonta, will be responsible for inspection and supervision of all county and city hospitals which will take part in the state-wide program to eliminate tuberculosis in the state within 20 years.

ALFRED C. LABOCCETTA, M.D., has been appointed Superintendent and Medical Director of the Philadelphia Hospital for Contagious Diseases.

MORTON L. LEVIN, M.D., Director of Cancer Control, New York State Department of Health, was elected President of the Public Health Cancer Association at its annual meeting in Cleveland. He succeeds HERBERT L. LOMBARD, M.D.,* Director of the Division of Cancer and other Chronic Diseases, Massachusetts Department of Public Health.

CHALMER J. LONGSTREET, M.D.,† was recently honored with a dinner to mark his retirement after nearly 30 years' service as Health Officer of Binghamton, N. Y.

MARY BLANCHE Moss has been appointed Medical Social Worker on the staff of the National Society for the Prevention of Blindness, Inc., New York, N. Y. Miss Moss's experience includes supervisory service in the Medical Social Service departments of Charity Hospital, New Orleans, and New Haven Hospital, as well as five years with the Red Cross overseas as supervisor of Medical Social Workers in the European Theatre.

HUGO MUENCH, M.D.,* a former staff member of the International Health Division of the Rockefeller Foundation, and Professor of Biostatistics in Harvard University's School of Public Health, has been appointed head of the Department of Biostatistics. Dr. Muench is also Assistant Dean.

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* Fellow, A.P.H.A.
† Member, A.P.H.A.

CHANGES IN NEW YORK STATE DEPARTMENT OF HEALTH:

JOHN K. MILLER, M.D.,† Albany, N. Y., has been appointed Associate Director of the Division of Laboratories and Research, succeeding MARY B. KIRKBRIDE, D.Sc.,* who retired July 1. Dr. Miller has been associated with the Department since 1937, and since 1942 has served with the Army, most recently in the Mediterranean Theatre as Colonel in the Medical Corps.

J. C. BOLAND, M.D.,† recently Health Officer of the City of Troy, N. Y., has been appointed Deputy County Health Commissioner of the newly organized Rensselaer County Department of Health, which includes the City of Troy.

FRANK E. COUGHLIN, M.D., DR.P.H.,* formerly New York State Department of Health District State Health Officer, has been appointed County Commissioner of Health in the Rensselaer County Department of Health, Troy, N. Y., effective November 1, 1946.

THEODORE S. DRACHMAN, M.D.,† Assistant District Health Officer, who has been on military leave since June, 1943, has resigned from the department and was appointed to the position of Deputy Commissioner of Health of Westchester County, effective August 13, 1946.

GEORGE JAMES, M.D.,* formerly Assistant District Health Officer in the Middletown district, has been appointed to the position of District Health Officer and assigned to the Kingston district to replace BERWYN F. MATTISON, M.D.†

EUGENE B. WILSON, M.D., who has been serving in the armed forces for the past two years, has been reinstated as Assistant Director of the Medical Rehabilitation Bureau.

A. J. CANNING, M.D., formerly of Rhoads General Hospital, Utica, was appointed as Director of the New York State Reconstruction Home at West Haverstraw, effective September 1, 1946. KENNETH S. LANDAUER, M.D., who has served as Acting Director since the retirement of the former superintendent, has resigned from the department to accept appointment as Director of Medical Care of the National Foundation for Infantile Paralysis. He will continue to serve as consultant to the New York State Reconstruction Home.

JERAULD A. CAMPBELL, M.D.,† formerly County Health Officer of the Mason-Bracken Health Department, Maysville, Ky., has been appointed Assistant District Health Officer of the Rochester district, effective November 16.

HARRY L. CHANT,* district State Health Officer in Middletown district, has resigned to accept an appointment as Associate Professor in the Department of Public Health, School of Hygiene and Public Health, Johns Hopkins University, and Director of the Eastern Health District, Baltimore City Health Department.

DOUGLAS POTEAT, former Vice-President of the American Red Cross, has been appointed Administrative Head of the American Cancer Society, New York, N. Y.

OTTO R. POZDENA, M.D., of Woodside, N. Y., has been appointed Acting Registrar and Director of the Bureau of Records, New York City Department of Health.

ELMER H. STOTZ, PH.D., has been appointed Professor of Biochemistry and Chairman of the Department of Biochemistry, University of Rochester School of Medicine and Dentistry, Rochester, N. Y. He will succeed WALTER R. BLOOR, PH.D.

Southern States

CHANGES IN HEALTH PERSONNEL IN ALABAMA:

JAMES L. CARPENTER, M.D., of Huntsville, has been appointed Health Commissioner of Madison County.

CLAUDE D. KILLIAN, M.D., of Fort Payne, has resigned as Acting Health Officer of DeKalb County.

GUSTAVE J. DAMMIN, M.D.,† has been appointed Assistant Professor of Internal Medicine and Assistant Professor of Pathology, Washington School of Medicine, St. Louis, Mo. He will serve as Director of the Central Diagnostic Laboratories at Barnes Hospital, St. Louis, and will aid in the teaching of laboratory diagnosis in the Department of Medicine. Dr. DAMMIN has recently been released from military services where he has been in charge of the Laboratory Division in the Office of the Surgeon General.

EVERETT H. ELLINWOOD, M.D.,* of Raleigh, N. C., has been named Health Officer for the Catawba-Lincoln, N. C., District Health Department succeeding HAROLD C. WHIMS, M.D.,† who holds a similar position in Buncombe County, N. C.

CORNELIUS W. KRUSE, M.S. (sanitary engineering) has been appointed Associate Professor of Sanitary Engineering at the Johns Hopkins School of Hygiene and Public Health, Baltimore, Md.

CHANGES IN HEALTH PERSONNEL IN MARYLAND:

NELS A. NELSON, M.D.,* Assistant Professor of Venereal Diseases at the Johns Hopkins University School of Hygiene and Public Health, Baltimore, has been appointed Director of the Bureau of Venereal Diseases in the Baltimore City Health Department.

HENRY F. BUETTNER, M.D.,† has been named Acting Director of the Bureau of Social Hygiene in the Baltimore City Health Department succeeding HUMPHREY WARREN BUCKLER, M.D.

THOMAS B. TURNER, M.D.,* Professor of Bacteriology, Johns Hopkins School of Hygiene and Public Health, and ALLEN F. VOSHELL, M.D., Professor of Orthopedic Surgery, University of Maryland School of Medicine and College of Physicians and Surgeons, have been appointed Consultants to the Baltimore Department of Health.

ROBB S. SPRAY, PH.D., has retired as Professor of Bacteriology at the West Virginia University School of Medicine, Morgantown, where he has been a member of the faculty for twenty-five years. He has been named Professor Emeritus. JOHN M. SLACK, PH.D., who has been in the Sanitary Corps of the U. S. Army for the past 4 years, has been named to fill the vacancy.

FRED WAMPLER, M.D.,* of Richmond, Va., has been named Director of the Page-Warren-Shenandoah Health District, Virginia State Department of Health, effective September 1.

GIDEON D. WILLIAMS, M.D., has been appointed Director of the Ouachita Parish Health Center, Monroe, La. He has been serving in a similar capacity with the East Baton Rouge Parish Health Center.

JOHN B. YOUMANS, M.D., has been appointed Dean of the University of Illinois College of Medicine, Chicago. He has been Professor of Medicine at Vanderbilt University School of Medicine, Nashville, Tenn.

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* Fellow, A.P.H.A.
† Member, A.P.H.A.

Western States

JOHN W. BROWN, M.D., Director of Clinical Laboratories, University of California Hospital, and Assistant Professor of Medicine, University of California Medical School, San Francisco, has been appointed Professor of Preventive Medicine and Director of the Department of Student Health at the University of Wisconsin Medical School, Madison. Dr. Brown will utilize the Student Health Service as a demonstration unit for closer correlation of clinical practices with preventive medicine in the broader field of public health.

CHANGES IN HEALTH PERSONNEL IN CALIFORNIA:

KENNETH W. HAWORTH, M.D., formerly of Pratt, Kan., has been appointed Health Officer for Humboldt County.

EVELYN F. BUCHHEIM, M.D.,† for the past 2 years district Medical Officer for the Fresno area, California Department of Public Health, has resigned.

HAROLD T. CASTBERG, M.D.,* has resigned as Chief of the Bureau of Adult Health to become Director of Field Investigations for the U. S. Public Health Service, Industrial Hygiene Division, Bethesda, Md.

LESTER BRESLOW, M.D.,† is Acting Chief of the Bureau of Adult Health.

MARY B. DALE, M.D.,† has been appointed Epidemiologist for the Los Angeles, Calif., County Health Department. Newspapers report that she is the first woman to hold such a position in the county.

ALFRED ROE MASTEN, M.D., has been appointed Director of the Tuberculosis Control Section of the Oregon State Board of Health. Dr. Masten has been Director of Tuberculosis Control for the Colorado State Board of Health, Denver.

FRANK B. QUEEN, M.D., has been appointed Professor of Pathology at the University of Oregon Medical School, Portland, Ore., and Director of the State Cancer Control Program. As Director of the Cancer Program he will serve under the joint auspices of the Medical School and the Oregon Division of the American Cancer Society.

PHINEAS J. SPARER, M.D.,† who recently joined the staff of the Jewish Consumptives' Relief Society as Medical Director has been named Superintendent of that Sanatorium in Denver, Colo. Dr. Sparer came to the Sanatorium from the U. S. Army after 3 years with the Tuberculosis Service at Fitzsimons General Hospital, Denver, Colo.

Puerto Rico

JUAN A. PONS, M.D., Puerto Rican physician, has been appointed Commissioner of Health of Puerto Rico to succeed ANTONIO FERNÓS-ISERN, M.D.,* now resident commissioner of Puerto Rico in Washington, D. C.

Foreign

DAGMAR JOHNSON, R.N.,† nursing representative with American National Red Cross Civilian Relief, has returned from Europe and joined the National Red Cross nursing staff in this country. Miss Johnson served with the Public Health Section of the Allied Military Government in Germany, working with displaced persons. Going from Germany to Holland, Miss Johnson worked in coöperation with the Medical Section of the Dutch Red Cross in hospital and public health activities. She later moved on to the Scandinavian countries, where she worked

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CONFERENCES AND DATES

American Association of School Administrators. Atlantic City, N. J., March 1–6.

American Dietetic Association. San Francisco, Calif. October 13–17.

American Hospital Association. Annual Convention. St. Louis, Mo. September 22–25.

American Medical Association—43rd Annual Congress on Medical Education and Licensure. Palmer House, Chicago, Ill. February 10–11.

American Public Health Association—75th Annual Meeting. Atlantic City, N. J. Week of September 22.

American Society of Heating and Ventilating Engineers—7th International Heating and Ventilating Exposition. Lakeside Hall, Cleveland, Ohio, January 27–31.

American Water Works Association
Annual Convention—San Francisco, Calif. Week of July 21–25.
Illinois Section—Congress Hotel, Chicago, Ill. April 17–18.
Minnesota Section—Lowry Hotel, St. Paul, Minn. March 13–15.
Montana Section—Havre, Mont. April 25–26.
New York Section—Annual Midwinter Luncheon Meeting. Hotel Commodore, New York, N. Y. January 17 (12:30 p.m.).
New York Section—Hotel Statler, Buffalo, N. Y. April 10–11.

Antibiotics Study Section, National Institute of Health, Washington, D. C. January 31-February 1.

Child Study Association of America. Annual Conference. Hotel Roosevelt, New York, N. Y. March 10.

Federation of Sewage Works Associations. San Francisco, Calif. July 22–24.

Interstate Post Graduate Medical Association of North Carolina. Public Auditorium, St. Louis, Mo. October 13–17.

National Dairy Council. Atlantic City, N. J. January 29–31.

Texas Public Health Association. Annual Meeting. Baker Hotel, Dallas, Tex. February 23–26.

The New York State Industrial Nurses Second Annual Conference. Pennsylvania Hotel, New York, N. Y. March 1–2.